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The JOURNAL OF THE DEPARTMENT of AGRICULTURE

VICTORIA – AUSTRALIA

VOL. XXXI PART 12

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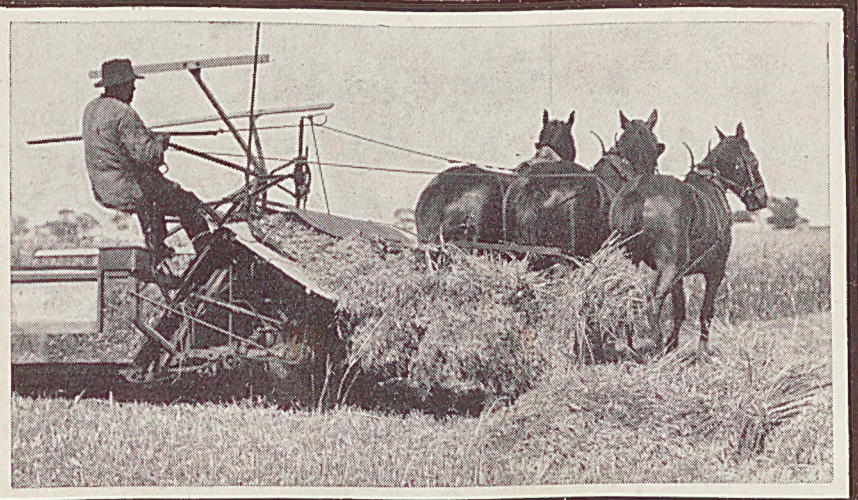

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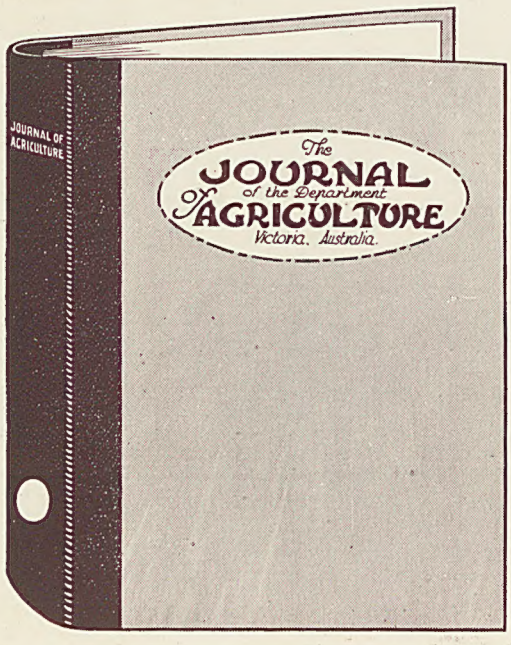

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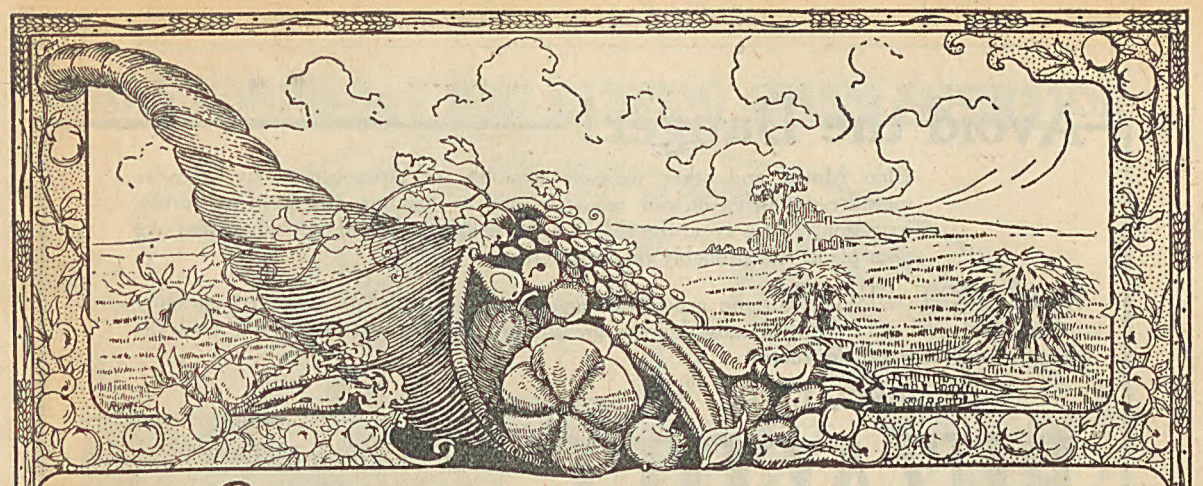

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Issued under the direction of the Hon. J. Allan, M.L.A., Minister of Agriculture.

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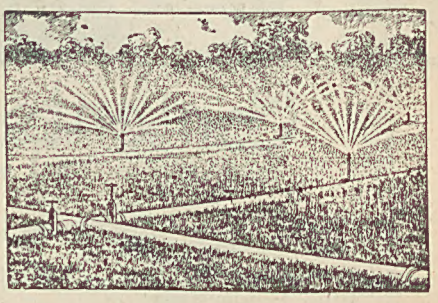

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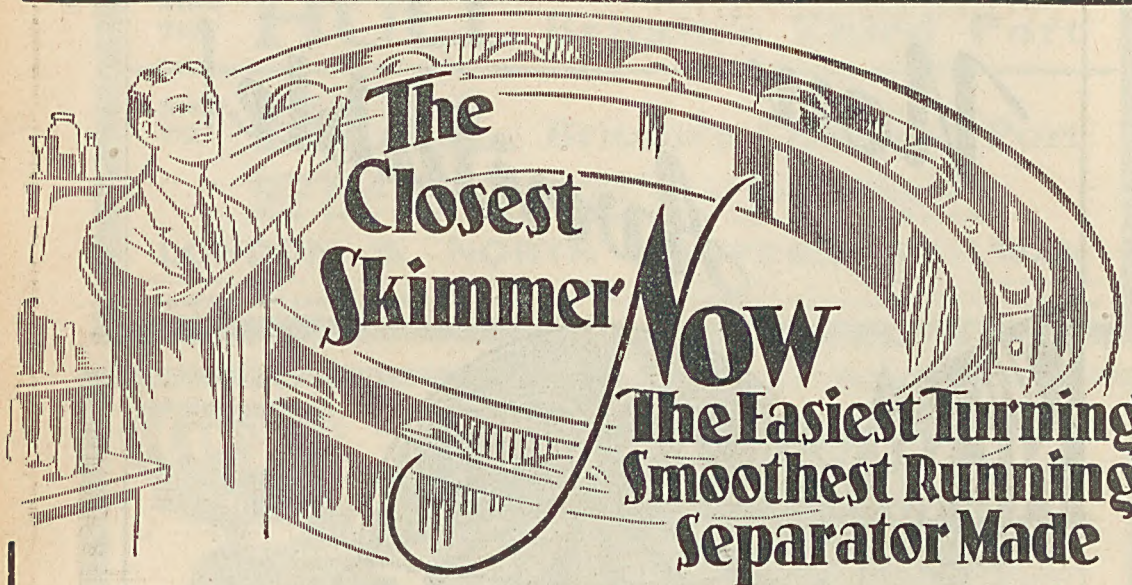

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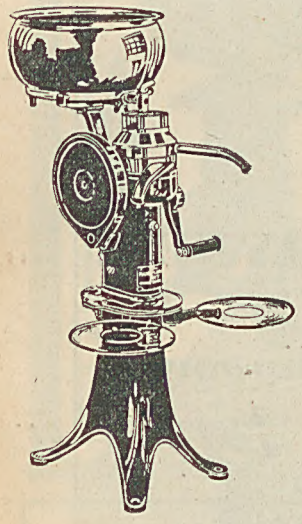

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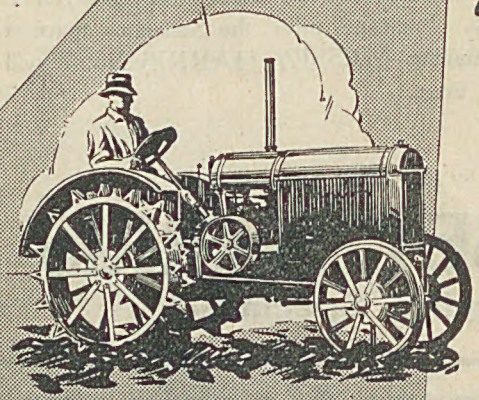

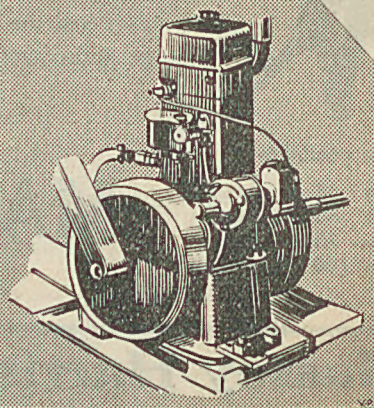

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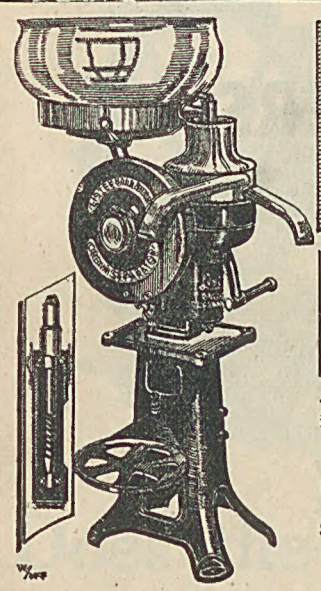

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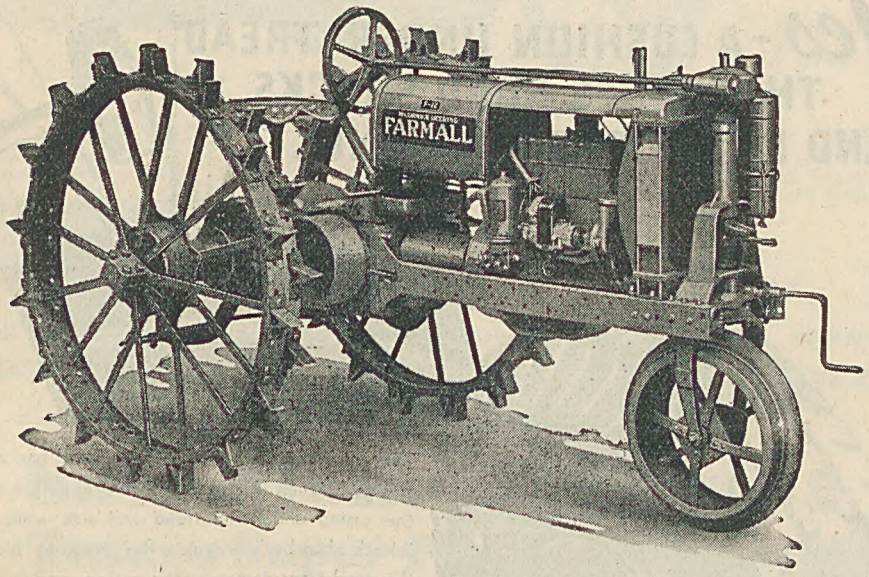

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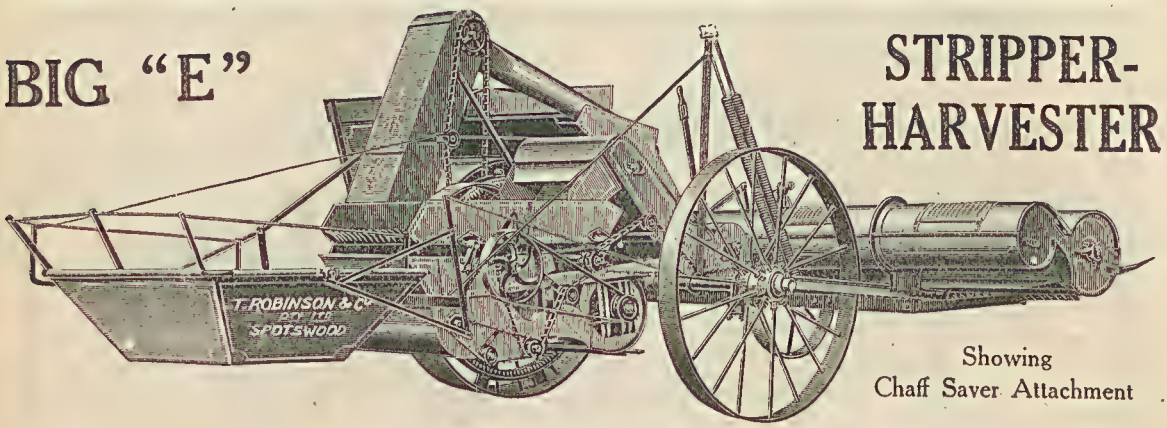

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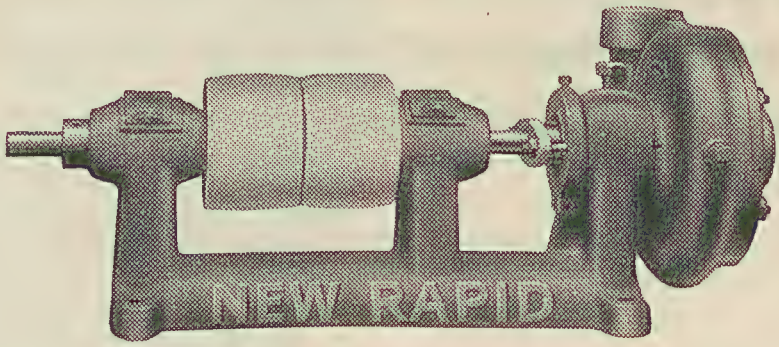

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Conserving Meadow Hay

By R. L. Twentyman, B.Agr.Sc., Agrostologist

IN recent years greater attention has been given to the problem of increasing the production from Victorian pastures. Considerable improvement has already been brought about by the practice of top-dressing with superphosphate, and the introduction of subterranean clover, and it is now generally recognized that a pasture is not merely a collection of plants over which we have no control, but that, like any other crop, it will respond to proper treatment.

The growth of pastures in Victoria is controlled mainly by three factors::—

1. The presence of productive species of grasses and clovers,
2. Soil fertility, and
3. Climate (involving rainfall and temperature).

Increased pasture growth generally can be brought about by the application of superphosphate to the pasture, and by sowing down the more productive types of grasses and clovers. But the major factor controlling growth is the climate, and as nothing can be done to alter this or its effects, we must accommodate ourselves to the circumstances, and make the best use of the climatic conditions as we find them. It is to the seasonal influence rather than to the actual daily weather that the pastures respond, and we are able to forecast with reasonable certainty how much feed is likely to be produced on a pasture within any given period of the year.

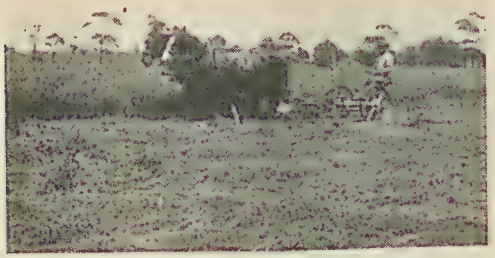
While the total production from year to year may vary considerably, we have in Victoria regular variations in growth, brought about as a result of the seasons. Thus we find that during summer and winter growth on the pastures is practically at a standstill. During the summer months the conditions are too dry, and in the winter low temperatures check growth. In the autumn growth varies greatly according to the time and amount of the autumn rains, but the feed during this period usually keeps pace with the requirements of the stock. During the spring months there is usually an abundance of feed, and the difficulty then is to prevent the pastures becoming coarse and rank and losing their feeding value. In a normal year on ordinary Victorian dry pastures, approximately 80 per cent. of the year's growth occurs during the spring period of about 3½ months.

With such great variations in pasture growth throughout the year it is obvious that, if the same number of stock is to be kept on a farm, and the pasture is to be efficiently utilized, it will be necessary to make provision for supplementary feeding during the periods of low-pasture production.

Quite a number of different farming practices have been developed in Victoria, all having as their main purpose the object of regulating the number and food requirements of the stock on the farm according to the actual seasonal feed available. Thus, in the central and northern districts, fat lamb raising provides a means of consuming the surplus spring growth, and when the flush of feed is over the lambs are sold. In some localities extra stock are bought early in the spring to consume the

spring flush of feed, and sold later when feed becomes less plentiful. In some southern districts stock are put on agistment areas during the winter months when the pastures on the farms could not carry them.

Another practice common in localities where fattening stock are being run is to permit the spring growth to go on unchecked—the surplus rough coarse grass being left standing in the paddock to be consumed during the following periods of slow growth. A similar practice to this is followed in wool-growing districts on the light Danthonia pastures, where the surplus spring growth left in the paddock enables the stock to be maintained over the lean periods.



Cutting grass hay at Warragul.

This means of fodder storage cannot be adopted on dairying pastures because of the heavier growth and the higher rainfall, which soon causes the mature growth to decay. On dairy farms it is a usual practice to have the cows coming into milk early in the spring, when feed is plentiful, and dried off later when the feed becomes scarce.

On a dairy farm it is essential that there shall be an abundance of feed throughout the year, and this feed must be of good quality if the cows are to be maintained in a productive condition. In the past, in order to provide a continuous food supply during the lean periods, supplementary crops were grown and fed to the stock when the pastures were insufficient. Thus maize, millet, sudan grass, or turnips were grown for late summer or autumn feeding, and oats to be fed off green in the winter, or cut for hay and fed during the following winter. With the recent improvement in pastures this practice has been replaced largely by the cutting and conservation of the surplus spring growth on the pastures.

Pasture improvement in Victoria has enabled more stock to be carried on each acre, and this heavier stocking has emphasized the need for fodder reserves, for, although during the periods of rapid growth the quantity of feed on the improved pastures is greatly in excess of that on the unimproved, yet during periods of summer drought or winter cold growth on both may be entirely checked. Fortunately, improved pastures are characterized by better growth during the periods of intermediate growth—the late autumn and early spring.

With the advent of better pastures and the adoption of better methods of pasture management, the making of meadow hay has become a necessity. In fact, so far as the practice of intensive rotational grazing as applied to Victorian conditions is concerned, meadow hay might be regarded as a by-product. For with this method it is necessary that growth in the paddocks be kept in a short leafy condition so that any surplus stemmy growth must be removed.

The term "meadow hay" or "grass hay" is applied to any dried fodder obtained from a pasture, the actual composition of the material varying according to the pasture from which it is taken. The making of meadow hay consists essentially of converting a sappy succulent fodder standing in the paddock, and containing about 75 per cent. of moisture, into a partially dried material, containing about 16 per cent of moisture, in which condition it may be stored and kept without deteriorating in quality. This sounds simple enough, but while some meadow hay is of excellent feeding value it is not unusual to find other material that is almost worthless. This difference can be readily brought about by mishandling of the grass between the time of cutting and the building of the stack.

The making of meadow hay is affected by numerous outside influences which cannot readily be controlled. The varying nature of the grass crops, the dampness of the ground, the humidity of the atmosphere, the presence or absence of wind, and the intensity of sunlight and heat are all modifying factors that combine to make the curing of meadow hay one of those arts for which no exact rules can be laid down.

After cutting, the grass stems remain alive for some time, and the leaves continue to exhale moisture so long as they are succulent and green. In curing the hay in the paddock the aim is to control the rate of evaporation of the moisture, and the quality of the resultant hay will vary according to the success of this

process. Usually the appearance and aroma of the material can be taken as a good indication of quality. Green-coloured, sweet-smelling hay usually indicates a palatable sample of high nutritive value.

Both the aroma and fresh green colour of the hay will be lost if it is left thinly spread in the swath, and exposed too long to the influence of the sun and weather. The grass should not be allowed to become too dry while lying in the swath, but should be gathered into windrows and built into small heaps or "cocks" while still in a partially-dried condition, so that the curing may proceed in these cocks. Grass so gathered into cocks remains in a better condition for giving off moisture than where the leaf has been withered and rendered brittle on account of prolonged direct exposure to sunlight and heat. While still comparatively fresh the leaves will continue drawing water from the stems thereby removing moisture from the bulk of the material and really hastening the drying grass towards the condition of hay.

Hay can be made without this sweating in the cocks, but it is much better for having undergone such action. The hay should be built into the stack when containing just enough moisture to allow it to settle compactly when trodden down. Hay put into the stack when so dry that it will not pack well is not in a first class condition. As the leaf of the hay is the most valuable portion it is desirable that it should not be withered and brittle, in which condition much will be lost during handling.

The greatest difficulty the Victorian farmer has to contend with in hay making is to get the hay cured and under cover without being damaged by showers. This damage can best be avoided by mowing in favorable weather, after the dew or rain has dried off, and allowing the grass to wilt in the swath for a few hours before building into cocks.

A method that has been developed in some of the wetter parts of the Western District is to build the partially-dried hay into very large cocks, which can be left standing in the paddocks with only small loss due to surface exposure, until such time as they can be conveniently carted to the stack. In this way material that is too damp to be built into the stack with safety can be further cured in the paddock without risk of being damaged, as it would be if exposed in a large number of small cocks.

Cut grass exposed to the weather loses quality much more rapidly than is realized, in fact, it is on record that meadow hay exposed to a prolonged rain lost as much as 18 per cent. of the dry substance. This heavy loss of the soluble portions of the hay leaves it proportionately more woody, fibrous, and indigestible.

A grass sweep in action.

Where difficulty is experienced in drying, the damp hay may be improved by the addition of salt when building into the stack. This not only retards fermentation, and checks the growth of moulds and mildews, but also renders the hay more palatable.

The top of the stack should be protected from the rain, either by covering, or by being so built that it readily throws off the water. This is important since, owing to the excellent keeping qualities of meadow hay, it is usual to find stacks being kept as reserves for some years. The stack should be securely fenced from stock.

Stacking grass hay.

Well made meadow hay is rich in protein, carbohydrates, and digestible fibre, and provides an excellent nutritive fodder for dairy stock. For feed for dairy cows the grass should be cut rather early, as it is desirable that the hay should be of good quality rather than be bulky and fibrous. For fattening cattle, later cutting is to be favored.

The grass should be cut preferably when in full bloom, before the seed has commenced to mature. Usually a compromise must be made in this matter, as owing to the diverse nature of the plants composing an ordinary pasture, some will be maturing seed whilst others are just coming into bloom. The actual time of cutting should be influenced more by the nature of the weather being experienced about the time that the grass is ready, rather than by any fine consideration of the condition of maturity of the plants.

Usually in Victoria the question of the aftermath (or growth following on the cutting) is not of much importance. In an ordinary season on our dry pastures, the weather conditions late in the spring usually are too dry to promote a second growth of grass, and it is only in unusually wet seasons that such growth occurs. Probably this is partly the reason for the making of grass silage failing to become as popular here as it has in New Zealand. There, where this practice is quite common, the cutting of a pasture for silage gives the pasture only a temporary check, and it is soon growing vigorously again. Here, however, even if cut for silage the pastures do not make satisfactory recovery, owing to the dry weather, and it is only in the more favored portions of Gippsland that a second growth can be expected.

Where it is decided to reserve a paddock for meadow hay, the field should be closed early in the spring, and should be well harrowed to level the surface and distribute any unspread dung. An application of artificial manure given at this time will encourage better growth, particularly during the early spring. Superphosphate is most valuable in this respect, but a dressing of sulphate of ammonia given early in August usually will be found to encourage a rapid growth during the early spring, and this increased growth should be sustained and reflected in a heavier cut of hay. This will be particularly so if the paddock is short of clover, as it is under this condition that the supply of soil nitrogen is usually deficient and a nitrogenous fertilizer will be of most benefit.

Effect on the Pasture.

On strong vigorous pastures, such as are found on the flats of Gippsland, or on the good soils of the Western District, the cutting of meadow hay usually does not have much ill-effect. It must be remembered, however, that

the grass hay crop taken from a field contains a large amount of mineral matter, as ash, and also a large amount of organic material which normally accumulates in the paddock and helps to build up its fertilty. The losses of the mineral matter can be compensated for by means of dressings of artificial manure, but unless the organic material is returned to the paddock in the form of dung the field will lose vigour, and a somewhat similar condition will be reached to that which is so frequently found on cropping land, where a paddock becomes exhausted or, as is usually expressed, "is cropped out."

This objection to the cutting of meadow hay is a very real one on weak or newly-sown pastures, and in these cases the taking of a crop of meadow hay may severely injure the pasture. A very common practice in Victoria is to crop a paddock continuously for some years, until it is no longer capable of growing a satisfactory crop. When the soil has reached this exhausted condition the field is either sown to grass or allowed to go to grass in the hope that it may recover its fertility. Under this condition soil fertility is low, and if the grass is encouraged to produce a crop of grass hay, which is mown and removed, this is really the equivalent of taking off another crop, and so depleting the soil fertility still further. With this method of management we find the better plants dying out, and the plants capable of existing under low soil fertility conditions, surviving. Thus it is that Yorkshire fog, sorrel, flat weed, sedges, loosestrife, and weedy grasses are later found to be in possession of the pasture. Repeated meadow hay crops taken over a number of years will react unfavorably on the best pastures, and will cause even good pastures to become weedy and lose vigour. Such plants as flat weed (commonly but erroneously known as dandelion), plantain, self-heal, and the field daisy are all encouraged by the repeated mowing for meadow hay.

One other aspect of the taking of a meadow hay crop is the influence on the botanical composition of the pasture. Closing the paddock encourages the growth of the tall growing species, and the resultant smothering, particularly of the more lowly growing annual plants during the spring, may quite easily change the pasture from being clover dominant into one that is grass dominant—a state of affairs which may or may not be desirable according to the nature of the original pasture. Thus though the taking of meadow hay affords an excellent means of obtaining a valuable fodder for use during the winter months, it must be remembered that the practice will react unfavorably on the pasture unless steps are taken to maintain the fertility of the field.

Making grass ensilage.

Irrigated Pastures

Hints on Management

By L. C. Bartels, B.Agr.Sc., Senior Irrigation Officer

IRRIGATED pastures have become very widely established throughout the irrigation districts of Victoria during the last ten years. This development followed on the successful results achieved in the experiments commenced some 20 years ago at the State Research Farm, Werribee, where the area sown to pastures under irrigation has been gradually extended until to-day it approximates 400 acres. Mixed pastures have been sown down on some 4,500 acres on the Werribee settlement, where this development has been accompanied by a considerable expansion of dairying. In other Victorian irrigation settlements also a similar development has taken place, huge areas of lucerne on dairying blocks having been converted into pastures which promise to be permanent, and to have a wider adaptation even than lucerne, in that they flourish in heavy soils and in low-lying places where lucerne would not persist.

Irrigated Pasture at Werribee, showing Rye grass, Prairie grass, and White clover.

The features which commend mixed pastures to the irrigation farmer, are that they are long-lived and very productive, they give variety in feed to stock, and also give fair continuity of feed. Pastures are most productive when grazed.

The term "irrigated pastures" is not a very definite one, but in the Victorian irrigation settlements it refers to mixtures of grasses and clovers in which some or all of the following species are represented:—Perennial Rye Grass, Italian Rye Grass, Cocksfoot, Prairie, and perhaps Kentucky Blue grass, Perennial Red Clover, White Clover, Alsike Clover, Subterranean Clover, and Strawberry Clover.

These constitute the main ingredients of the mixture recommended by the Department of Agriculture for sowing. They all grow well in association, but the character of irrigated pasture varies very much. The mixture of grasses may be simple or complex, while different elements will predominate under different conditions. This flexibility of the pastures is one of their most valuable features.

The mixture given makes a perennial pasture; some of the grasses, e.g., Italian Rye and Prairie, are short-lived, but, despite this, they are on the increase in some of our older irrigation districts. This is a most pleasing development, as both are palatable and nutritious grasses, and their winter-growing habit enables them to make a valuable contribution to the herbage offering in mid-winter when the perennial elements are not very active.

Red and Alsike Clover do not last much beyond the fourth year, although they may be represented in much older pastures. They are useful in young pastures, while the perennial species, White Clover and Strawberry, are establishing themselves.

Subterranean clover is an annual which is very persistent. It may be classed as an opportunist which becomes assertive if given the chance. The best irrigated pastures are those in which White and Strawberry Clover are the main clovers. Nevertheless Subterranean is one of the most useful clovers we have. It is not popular with many irrigation farmers, who protest that, where it is introduced, it takes control to the exclusion of the better clovers. Because it is an annual it dies down in early summer, leaving bare patches.

Watering methods exercise the greatest influence on the character of irrigated pastures. To investigate the effects of varied watering methods a series of tests has been conducted at the Werribee Research Farm for several years. Different quantities of water have been applied to particular plots, and the same quantity in different ways to other plots. The plots were sown with the same mixture, and have received the same manurial treatment throughout but, as a result of the different waterings, very different types of pasture have evolved, and the total yield and the distribution of the growth through the year have both been influenced.

At Werribee it is impossible to grow successfully without irrigation the elements referred to as constituting good irrigation pasture, and an unwatered plot sown with that mixture has reverted to natural pasture, with only an odd plant of lucerne or cocksfoot showing—at present barley grass is predominant.

With 18 inches of irrigation water in the season, applied in 3-in. waterings, a fair growth is induced, but the best results are obtained from 2 feet of irrigation water, given in six 4-in. waterings. Heavier irrigations do not increase the yield, and the experience at Werribee with 30 inches and 36 inches of water has disposed of the argument that pastures require more water than lucerne.

It is important that irrigation farmers should realize that six 4-in. waterings, distributed through an irrigation season, give much better results than the same quantity of water applied in four waterings of 6 inches. Four waterings are not sufficient to keep White Clover growing vigorously. The pasture has a surfeit of water after an irrigation, but languishes before the next watering. On the plot receiving six waterings White Clover is the dominant clover, whereas, on the plot receiving only four waterings, Subterranean Clover takes control. In those cases in the Goulburn Valley where Subterranean Clover is predominant, this situation has arisen from failure to keep the ground sufficiently moist to maintain White Clover. Good pastures demand regular watering. In this connexion, however, there is a very real difficulty at Werribee and parts of the Goulburn Valley, in that the ground will not readily absorb sufficient water. One expedient adopted to overcome this difficulty is the practice of supplementary watering. This means that, if at the first irrigation the absorption is only, say, 2½ in., the ground is watered again a day or two after the first watering, when another 1 inch or 1½ inches of water is applied. This does not entail very much greater work or much extra time but, when practised regularly, it has a wonderful effect on the pasture.

Although pastures will grow in wet places, excessive watering is undesirable and unprofitable—moderate waterings are best. In porous soils the bays should be made shorter and narrower, in order to reduce the absorption, so that the ground takes no more than 4 or 5 inches when irrigated.

There are irrigation districts, particularly outside the closer settlement areas, where conditions do not permit the farmer to give the frequent waterings indicated as desirable. The distributory system is so big that the irrigation authorities cannot assure the supply of water at close intervals. Under such conditions mixed pastures of Wimmera Rye Grass and Subterranean Clover are valuable. If these are established, excellent results are obtained by a watering or two in autumn, and perhaps one in spring. These two fodders are winter-growing annual species, with low water requirements. They die down in summer and are independent of the conditions prevailing then.

Comprehensive tests with fertilizers on irrigated pastures have demonstrated the value of superphosphate in liberal quantities. Of all the manures and combinations of manures tested at Werribee, 4 cwt. of super. per acre per annum has proved the most satisfactory. The rapid development of irrigated pastures is associated with a growing appreciation of the value of top-dressing. In fact, there has been a remarkable development of grasses and

clovers in old lucerne stands which have been liberally top-dressed and regularly watered, a development which is all the more valuable as it represents the spread of strains naturally selected because of their adaptation to their environment. Although the usual dressing is not so heavy the most successful irrigation farmers, on small blocks, are using as much as 4 cwt. of superphosphate per acre.

Unmanured pasture, showing flatweed and only small proportion of clover.

Extended tests with nitrogenous manures have shown that we can influence the winter production slightly, but, until the maximum results are being obtained from dressings of superphosphate, the use of sulphate of ammonia is not recommended.

Grazing management greatly influences the character and productivity of irrigated pastures. This may be viewed from many angles, because grazing methods will influence yields, the relation of the species in a pasture mixture, the spread of production throughout the year, the fodder value of the herbage and, consequently, the well-being of the stock.

We may obtain a better understanding of this matter if we realize that the plants are living organisms with different habits and different seasonal growths, that the defoliation which occurs during grazing is at the expense of the vitality of the plant, and that the plants should be given time to recuperate between severe grazings. The grazing animal obtains nourishment from the pasture—its body, including the skeletal structure, is elaborated mainly from the fodder it eats. Warmth and energy are from the same source. To secure the best use of the herbage on a pasture the movements of the grazing animal must be under control. If this is not possible the animals are likely to select particular areas, which they keep grazed close and neglect the remainder.

It is now well recognized that young growing herbage is the most nutritious. At Werribee repeated analyses of clippings from irrigated pasture with not more than three weeks' growth have shown that, on a dry basis, the protein content is as high as that in oil-cake. There is progressive reduction as the pasture gets older, and because of the development of fibre the fodder becomes less digestible.

An animal requires a balanced ration, and ruminants particularly require bulk. Given abundant mixed pasturage the animal is able to balance the fodder, but because of selective grazing there is considerable waste. To secure maximum returns per acre the pasture must be presented to the stock in approximately the right condition, and grazed uniformly without waste.

Pasture treated with 2-cwt. super. per acre. Note increased growth of clovers.

However desirable this end may be, it is not to be achieved by forcing a herd of milking cows to graze a pasture till it is eaten short. The milking cows should be given access to the pasture first, then dry and young stock may follow to act as scavengers.

In the spring months there is normally a superabundance of feed, and the management of the grazing at this time has a bigger influence on the pasture than at any other time. Usually the grass on portions of an irrigated paddock will become tufty and stemmy. In addition to the serious depreciation in the protein, lime and phosphate content, grasses which are allowed to run to seed seem to weaken themselves, and this is followed by a resting period, during which production is reduced. If, on the other hand, the pastures are kept short, leafy nutritious herbage is available for a prolonged period.

Intensely grazed irrigated pasture at the Werribee Research Farm.

This pasture which is 17 years old is growing on a heavy clay loam. Perennial rye-grass, Kentucky Blue, Cocksfoot, White Clover, and Strawberry Clover comprise the sward.

The tall-growing species will dominate the others if allowed to get away in spring, and later the pasture becomes open. Sometimes extra stock are brought in to deal with the surplus—in some cases the farmer stocks nearly to full capacity in spring, and puts portion of his stock out to agistment in winter. The more desirable practice, however, is to conserve the surplus in spring for hand-feeding in winter. Division of the pastures enables the farmer to shut up some paddocks for silage or hay, the former being the better for the pasture.

The provision of winter feed is a most serious consideration for dairy-farmers on an irrigated block. It used to be a regular practice on the part of good farmers to sow cereals, oats and barley, in autumn. Now, more use is made of an area of Wimmera Rye and Subterranean Clover, which is permanent when established, and which, because water is withheld in summer, is used for autumn, winter, and spring only.

A most pleasing development in irrigation districts is the increasing proportion of Italian Rye Grass and Prairie Grass in the pastures. These are two of the most palatable winter-growing species we have available—usually they have been deprecated because of the difficulty of holding them—but they are contributing more and more to the winter feed in the pastures at Werribee and elsewhere. As reasons for this very desirable development it is suggested that the improved fertility of the soil has promoted the growth, that improved strains of these grasses are being propagated, and also that the feed position is so much improved on many farms that the pastures are grazed only leniently in spring, and these short-lived pasture plants have better chances of forming seed—in other words, that wasteful grazing methods in spring are conducive to a better feed position in the subsequent winter.

It is likely then that for better distribution in yield one must compromise between the intensive grazing, which means most efficient use in spring, and the extensive methods usually employed. If hay or silage-making is practised the winter-growing species are favoured, and improvement is effected without waste.

Much work remains to be done before definite rules in regard to the grazing practices of irrigated pastures may be laid down, but many successful farmers graze for about one week in four, and have recourse to periodical mowings to remove any coarse growth.

Better Farming Train

Western District Tour: *By V. Lewis*

AFTER a lapse of fifteen months, the Better Farming Train recently made its 36th tour, when nine Western District centres were visited. The itinerary included Warrnambool, Port Fairy, Hawkesdale, Coleraine, Portland, Heywood, Condah, Merino, and Casterton, in that order. The tour was financed by the Rural Credits Fund of the Commonwealth Bank.

Mr. R. J. de C. Talbot, Veterinary Officer of the Department of Agriculture, was the officer-in-charge of the train, and Mr. L. Bromilow, member of the Betterment and Publicity Board of the Victorian Railways, had charge of the railway arrangements. Fifteen officers of the Department of Agriculture travelled with the train, while the Health Department was represented by Dr. Cole, Sister Peck, and Mr. G. Bennett, and the Education Department by Misses Newey, Nicholson, and Sweetman.

The most important pursuits in the districts visited were dairying, sheep-farming, and horticulture, and consequently the exhibits on the train were arranged with a view of suggesting better methods to those engaged in these particular phases of rural production. From the commencement at Warrnambool to the last demonstration at Casterton, the tour was a marked success, the average attendance at each centre visited being about 550. The crowds visiting the train at the various centres evinced a critical and appreciative interest in the lectures and exhibits.

It was notable that increased interest was taken in herd recording, pasture improvement, and conservation of fodder, and farmers, who, on the previous visit of the train to the Western District, were somewhat apathetic in regard to these questions, were anxious to discuss them, and obtain all the information possible.

The train was composed of eighteen vehicles, which included five exhibition cars, two lecture cars, two cattle trucks, one pig truck, one sheep truck, and one poultry truck. The lecture cars, which were used for cookery, needlecraft, child-welfare and mothercraft

A lecture by the Sheep Expert.

lectures, were each capable of seating 80 persons, and frequently during the tour, many persons were unable to gain admittance. Lectures for the men were delivered in a marquee, and from the sheep and pig trucks, each of which is fitted with drop sides, convertible into platforms. These platforms enabled a close inspection of the animal exhibits to be made, and lectures to be delivered with the animals under the hand of the lecturer.

Interior of the Cookery Demonstration Car.

The following lecture programme is typical of those which were delivered at the various demonstration centres. Alterations were, of course, made daily to suit the particular interests of the centre visited:—

11 a.m., Dairying Problems—Mr. Kerr.
11.30 a.m., Stock Feeding—Mr. Yuill.
1.20 p.m., Stock Demonstration—Messrs. Kerr and Gill.
2.0 p.m., Herd Recording—Mr. Yuill.
2.30 p.m., Pasture Management—Mr. Harrison.
3.0 p.m., Stock Diseases—Mr. Wardle.
3.30 p.m., Sheep Demonstration—Mr. Bowman.
4.0 p.m., Pig Breeding—Mr. Gill.
8.0 p.m., Poultry Keeping—Mr. Pederick.

In the fruit-growing districts lectures on horticulture and fruit packing were given.

A lecture on baby welfare.

Women's Section.

11.0 a.m., Needlecraft—Miss Nicholson.
11.0 a.m., Infant Welfare—Sister Peck.
11.30 a.m., Mothercraft—Sister Peck.
2.0 p.m., Public Health—Dr. Cole.
2.20 p.m., Cookery Demonstration—Miss Newey.
2.30 p.m., Home Nursing—Sister Peck.
3.0 p.m., Infant Welfare—Sister Peck.

A feature of this tour was the excellence of the livestock carried. This consisted of eight cattle, six pigs, twelve sheep, and twenty head of poultry, the animal exhibits having a total estimated value of £1,660. Most of the cattle exhibited were prize winners at the recent Royal Agricultural Show, and included Mr. T. Knowles's Ayrshire cow, Dandy Mab, winner of a first prize; the Department of Agriculture's Friesian cow, Victoria Domino Patch, and Friesian bull, Victoria Joyous Mercedes, champions respectively in their class; and Mr. W. K. Atkinson's dairy Shorthorn cow Willow Park Moss Rose, and bull Willow Park Silvermine, also first prize winners.

All the pig exhibits secured prizes at the recent Royal Show, Messrs. Fairchild and Clutterbuck's Large White Sow, Vaucluse Valencia 30th, and Mr. E. A. Davis's Large White Boar, Vaucluse Walton 6th, both winners of a first prize, exciting general interest. The sheep carried on the train included many valuable animals, representative of some of the best flocks in the State. Merino, Polwarth, Corriedale, Lincoln, English Leicester, Border Leicester, Romney

Marsh, Ryeland, Southdown, and Dorset Horn breeds were represented, the two most valuable sheep being a Merino ram owned by Mr. G. Lannin, of Lillimur, and a Corriedale ram lent by Senator Guthrie, of Geelong. Each of these rams were valued at 150 guineas.

The "Public Health" Car.

The Exhibition Cars.

In the carriage devoted to pasture exhibits, sods cut from actual pastures allowed comparisons to be made between the nature and value of English, Hawke's Bay, and Victorian perennial rye-grass for permanent pasture, the strong swards of Hawke's Bay and Victorian rye-grass demonstrating their suitability for the purpose. Sods of Wimmera, Italian, and South Island rye-grass showed excellent first-year growth, highly suited to milking cows and fat lambs, but second-year swards of these grasses demonstrated their short-lived nature.

Victorian and New Zealand cocksfoot derived from long established pastures showed a dense leafy nature in comparison with cocksfoot of Danish origin. Subterranean clover was represented by exhibits of twelve different types or strains, classified as early, midseason and late, according to the date of maturity in the spring. Early strains, able to take advantage of short seasons, are regarded as having possibilities in northern districts of light rainfall.

A section was devoted to examples of various pasture types found throughout the Western District. Pastures of the stony rises contain annuals which make rapid succulent growth, but leave the ground bare in summer. The better class loams support a perennial as well as an annual type, e.g., perennial rye-grass and subterranean clover, and the heavy soils of flat lands maintain perennials only, e.g., perennial rye-grass and strawberry clover. Swards of these and other types were exhibited and clearly demonstrated the adaptation of different species to different soils and situations.

For the guidance of farmers, several grass-clover mixtures were displayed and recommended for the above different classes of soils. Seed also was exhibited, the value of choice quality being emphasized.

A sod of improved native pasture, which had been broadcast with subterranean clover seed and top-dressed for a few years with superphosphate, shown alongside its unimproved prototype, attracted much attention, as did a comparison of a harrowed pasture with one that had not been harrowed. When brought under close observation, a rank tufty patch in a pasture looks definitely undesirable, and these comparisons served more forcibly than perhaps any other method would have done to bring to the notice of farmers the necessity for the intelligent management of their pastures.

Specimens of different grasses and clovers commonly occurring in the Western District were exhibited and labelled with both botanical and common names for the convenience of visitors, who frequently recognized different plants as being of the same species as those growing on their own properties, and hitherto unknown to them by name.

An exhibit conveying the idea that purity and germinating capacity were of great importance in seeds was closely studied by many. A sample of rye-grass seed containing 99 per cent. pure seed was compared with one containing 90 per cent. only. Impurities such as weed seeds, husk, and gravel were shown separately. Two germination trials in actual progress illustrated the difference possible between two samples of rye-grass, one showing

Potato-growing exhibits.

98 per cent., and the other 40 per cent. germinability. A simple method by which the farmer himself might test seeds before sowing was noted by many growers.

The value of fodder conservation was stressed, a model grass-hay stack being used for the purpose of illustration. Opinion was frequently heard that grass-hay conserved for use when the normal supply of feed is low would help largely to maintain butter-fat production at a profitable level during those seasons.

The potato section was the centre of much interest, especially in the potato-growing districts. In this car also were many striking comparisons, one of the most effective being that provided by boxed seed placed alongside pitted and bagged seed. This exhibit showed clearly the advantages to be gained by boxing seed. A model of a dipping tank for the dipping of boxed seed, a good type of bag-holder, grading riddles, and the best type of forks to use in digging potatoes also were displayed. The seed potatoes that gained first, second, and third prizes at the Royal Agricultural Show of this year attracted much attention. Diseased potatoes preserved in jars illustrated many of the diseases which attack the potato, and were accompanied by a description of methods for their prevention and treatment. Commercial fertilizers were displayed, showing the ingredients of each type, while cards setting out the results of the latest departmental manurial tests were issued to growers.

In the wool section were displayed fleeces of some of the well-known Western District clips. All types of wools were exhibited, ranging from the choicest superfine Merino to good quality Lincoln. These fleeces were displayed with a view to stimulating a higher average production of high-class wools. Each fleece was marked with its spinning quality, the clean scoured yield, the approximate value per lb., and the owner's name.

An exhibit of miniature bales, containing a complete range of the various types of wool, from 80's to 36's, including samples from Western District, Wimmera, and Mallee, was attractively arranged. These model bales not only illustrated the correct spinning qualities, but also demonstrated the correct method of presenting wool for buyers' inspection.

Another exhibit, in which was displayed a number of products made from wool, especially the section devoted to suit and dress materials and woollen ties, attracted much attention.

The poultry car was a centre of general interest in all districts visited. In addition to the good birds, several fowls of undesirable type were carried, to enable comparisons to be made. The most modern poultry-farming equipment such as feeding and watering receptacles, sheds, yards, nests, &c., was set out in model form. The desirability of attaining a higher average of eggs of standard weight was stressed, and the use of egg scales was advocated, while trays showing the various grades of eggs were prominently displayed.

The main features of the veterinary exhibits were those indicating the life history and control of the more common internal and external parasites of the domestic animals, such as liver fluke, tick, and intestinal worms of sheep and pigs. Other exhibits of importance were arranged to emphasize the necessity for making available mineral licks for sheep and cattle, to prevent bone-chewing, botulism, and other diseases directly or indirectly caused by a mineral deficiency in the animal's diet.

Sections of organs affected with the more common animal diseases, such as tuberculosis, actinomycosis, hydatids, pleuro-pneumonia, and beef measles were displayed.

The Public Health Department section was fitted with various models of wire flyscreens, covers, &c., designed to protect foodstuffs from the incursion of the fly. Other exhibits were a handy spray glass-washer, models of foodstuffs left uncovered, to demonstrate the necessity for their protection from dust and flies, and a large model of a fly, showing the hairy nature of its legs, making them ideally suited for germ carrying.

The horticultural car featured for the first time an exhibit demonstrating by means of a series of illuminated, coloured photographs, the most recent advances made in the study of fruit-tree manuring, which has been carried out by the Department of Agriculture.

In these experiments, the trees were watered with specially prepared nutrient solutions, and were grown in sand devoid of all plant food. The photographs were of trees each of which had been treated in a different way. One was of a tree which had received a complete nutrient solution, its appearance being that of a normal tree of its particular variety. The next was of a tree which had received everything necessary except potash and, as a consequence, had developed symptoms characteristic of that deficiency. The other photographs were of trees which had received nutrient solutions from which had been

omitted in turn phosphorus, nitrogen, lime, and magnesium, and in every case it was possible easily to recognize the effect the lack of these elements had upon the tree.

The main feature of the grafting exhibit was a demonstration of a new method known as sprig grafting. Whereas the old method involved cutting the tree right back and grafting practically on the stump, the newer method consists of inserting a large number of grafts, say 200 to 300, throughout the entire length of the limbs of the old variety, making it possible to secure a full crop of the new variety in the second year following the grafting, as against five or six years under the old method.

In addition, and this applies particularly to the Western District, the new method largely eliminates danger from infection with the Polystictus fungus which abounds on the native trees of that region, and is fatal if introduced into orchards.

The new cross-pollination exhibit demonstrated the methods of inter-planting varieties in an orchard to secure satisfactory cross-pollination. In many fruits cross-pollination is essential to secure satisfactory yields, and lack of it is a frequent source of low yields.

The horticultural display included a small model of dipping and rinsing tanks for the removal of arsenical residue, with hydrochloric acid solution, from harvested apples and pears. This cleansing of fruit is of great importance in view of the stringent health regulations imposed in most of our fruit markets.

As dairying is a major industry in most of the districts visited, it was not surprising that the dairying car was for the most part crowded. One of the most interesting exhibits in this car showed the correct proportions necessary for making up a balanced ration to satisfy the fodder needs of a milking cow. Complete samples of foodstuffs were arranged, with data showing the various percentages of nutrients contained in each, the exhibit being designed to show the extreme variation in the amounts of the different foodstuffs necessary to supply a sufficient quantity of protein.

The sanitation exhibit was designed to bring home more forcibly to dairymen the necessity for cleanliness in the handling of milk and cream, and indicating the various means of avoiding germ infestation of milk, especially in view of Great Britain's embargo on the importation of butter containing preservative.

The model car contained models of various farm equipment, in which were included a good type of silo, a representation of an improvised silage pit, two types of self-feeders for pigs, and a pig-paddock with sheds and feeders in miniature. In addition to these models, a sterilizing outfit, composed of a chip water-heater, steamer, and washing trough, was displayed. Two types of cream-cooler were shown, one with a moderate-sized water-bag attached, to demonstrate its practicability on farms not equipped with a pipe water supply.

The use of badly tinned and seamed buckets and cans was deprecated, the good and bad types being compared to show the ease with which the approved container may be cleansed, as compared with the seamed and incorrectly made utensil.

At each demonstration centre arrangements were made for senior scholars from the various schools to visit the train, the boys being given lectures on stock and the girls on needlecraft and domestic economy.

CHRISTMAS MAILS

The Deputy Director of Posts and Telegraphs (Mr. R. Lawson) advises that a campaign has been inaugurated to urge on the public the necessity for posting Christmas mail matter early. Past experience has shown that if everybody leaves their postings until the last day or two before Christmas Day there will be such congestion that it will be impossible for the postal staffs to handle and send the postings along in sufficient time for delivery before Christmas Day.

Nearly 13 tons of Christmas mail matter from Victoria were placed on board the R.M.S. *Orontes*, which sailed from Fremantle on the 20th November, 1933, for conveyance to the British Isles and Europe, and it is anticipated that heavy postings for delivery within the Commonwealth will also be made during the forthcoming festive season. The public is therefore urged to at once see about purchasing their gifts and greetings, and as far as possible to spread the postings over the ten days preceding Christmas Day so as to ensure early delivery. Packets may be endorsed, "Do not open until Christmas."

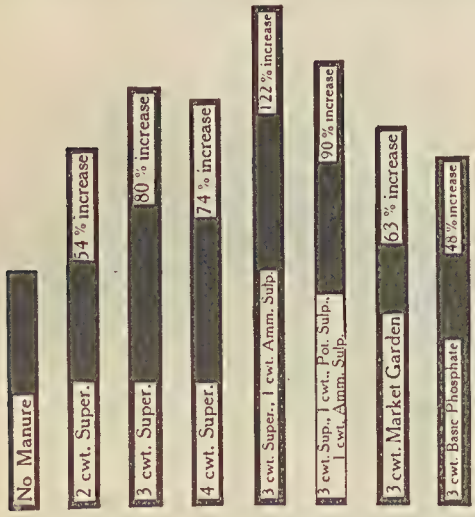
Potato Growing in Victoria

No. 5.—The Use of Artificial Fertilizers

By J. T. Ramsay, Potato Expert.

Previous articles of this series, which appeared in the March, April, May, and July issues of the Journal, dealt with the condition and selection of seed, seed storage methods, change of seed, and plant food requirements.

THE second method of increasing soil fertility and crop yields is the application of artificial fertilizers, most of which are inorganic chemical compounds. There is a wide range of these fertilizers on the market, supplying either singly or in combination, many of the essential elements for plant growth. The only elements it is necessary to add to soils used for potato-growing are nitrogen, phosphoric acid, and potash. Formerly lime was regarded as being beneficial to the crop, but exhaustive tests in a variety of soils have disproved this belief. In fact, in the majority of cases where lime is applied to the crop, not only is there no benefit in yield, but an actual decrease occurs. The explanation of this is that the potato plant prefers an acid to an alkaline soil, although the optimum degree of acidity has not yet been determined. It is proposed to have experimental work in regard to this aspect of potato culture carried out in the future.



Graph showing the percentage increases in yield obtained with various manures in the potato plots at Millbrook. (Red volcanic loam; rainfall, 35 inches.)

Of the three ingredients referred to, the most important is phosphoric acid, Victorian soils as a class being markedly deficient in this element. Next in order of importance is nitrogen. Potash is of least consequence. These fertilizers are obtainable in varying forms, the principal of which are detailed as follow:—

Phosphatic Manures.

Superphosphate containing 22 per cent. phosphoric acid—mostly water-soluble.

Basic phosphate, containing 17 per cent. phosphoric acid—mostly citrate-soluble.

Nitrogenous Manures.

Sulphate of ammonia, containing about 20 per cent. nitrogen.

Nitrate of soda containing about 15 per cent. nitrogen.

Dried blood, containing from 8 per cent. to 11 per cent. nitrogen, according to quality.

Potassic Manures.

Sulphate of potash, containing 50 per cent. potash.

Muriate or chloride of potash, containing 60 per cent. potash.

Compound Manures.

Nitro superphosphate containing from 14 per cent. to 16 per cent. phosphoric acid, and about 2 per cent. nitrogen.

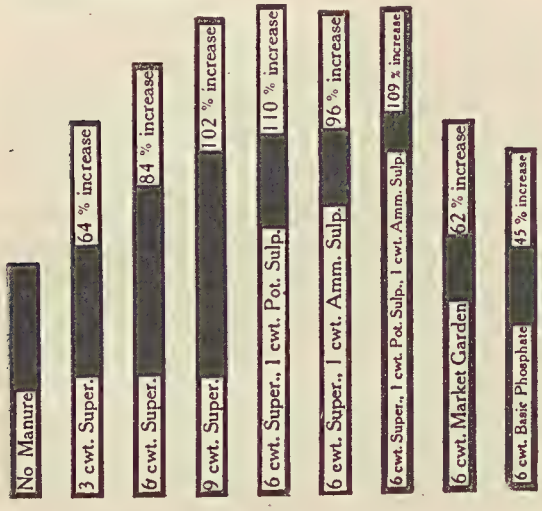
Bone and superphosphate, containing from 14 to 18 per cent. phosphoric acid, and from 2 to 4 per cent. nitrogen.

Blood and bone, containing about 14 per cent. phosphoric acid and 5 per cent. nitrogen.

Superphosphate and ammonia ("6 and 1") containing approximately 18.5 per cent. phosphoric acid and 3 per cent. nitrogen.

Superphosphate and ammonia ("3 and 1") containing 16.5 per cent. phosphoric acid and 5 per cent. nitrogen.

Certain new synthetic manures in highly concentrated form have become commercially available during the past few seasons, but while these are quite effective as a means of increasing yield, their cost at the present time is prohibitive, and for this reason they cannot be recommended.


No Manure
3 cwt. Super.
64 % increase
6 cwt. Super.
84 % increase
9 cwt. Super.
102 % increase
6 cwt. Super., 1 cwt. Pot. Sulp.
110 % increase
6 cwt. Super., 1 cwt. Amm. Sulp.
96 % increase
6 cwt. Super., 1 cwt. Pot. Sulp., 1 cwt. Amm. Sulp.
109 % increase
6 cwt. Market Garden
62 % increase
6 cwt. Basic Phosphate
45 % increase

Results of potato manurial trials at Warragul. (Clay loam; rainfall, 35 inches.)

There are certain forms of the various chemical manures in use which are more suitable for application to the potato crop than others, either because of their influence on quality or production, or both. The best form in which to apply phosphoric acid is as superphosphate. This fertilizer has a considerable beneficial influence on the table quality of the potato, and a still greater influence on the yield. In fact, owing to the general deficiency in phosphoric acid of Victorian soils, it ranks as the most important of all artificial fertilizers. When used alone it has the effect of shortening the period of maturation of the crop by from two to four weeks. This is most important to growers who wish to have their crop on the market as early in the season as possible, in order to secure the high prices usually obtainable then. It must be pointed out, however, that the shortening of the growing period by the application of superphosphate alone, is accompanied by a sacrifice in yield as compared with that obtained from a combined phosphoric and nitrogenous fertilizer. The use of superphosphate alone by growers catering for the early market resolves itself into a gamble as to whether a smaller yield per acre at a higher price will be more profitable than a heavier yield at a lower price.

Another reason why superphosphate is the best form in which phosphoric acid can be applied to the potato crop, is that it is practically all water-soluble, and therefore becomes immediately available to the crop in its earliest root movement. Tests have shown that the potato crop takes its nourishment from the soil at a much faster rate in the early stages of growth than later. Consequently if the best results are to be obtained, it is essential that the manures given shall be available from the time the plant starts feeding on the soil. Phosphatic, unlike nitrogenous manures, are not lost by leaching.

Nitrogen should be used only in the form of ammonium sulphate or as dried blood. When used as nitrate of soda, the result usually is to produce tubers of lower table quality. Further, the high solubility of sodium nitrate permits of its being leached from the soil by heavy rains, and thus lost to the crop. Ammonium sulphate is not so readily soluble

No Manure
3 cwt. Super.
95 % increase
6 cwt. Super.
115 % increase
9 cwt. Super.
142 % increase
6 cwt. Super., 1 cwt. Pot. Sulp.
137 % increase
6 cwt. Super., 1 cwt. Amm. Sulp.
154 % increase
6 cwt. Super., 1 cwt. Pot. Sulp., 1 cwt. Amm. Sulp.
147 % increase
6 cwt. Market Garden
90 % increase
6 cwt. Basic Phosphate
51 % increase

Potato manurial trials at Thorpdale. (Clay loam; rainfall, 40 inches.)

as nitrate of soda, but acts quickly enough to enable it to be assimilated as required by the crop.

For years potash was considered to be an essential fertilizer for the potato crop, but under Victorian conditions it has not been successful in increasing potato yields. Recent reports of research work in other countries indicate that its value there is being questioned. Despite its effect on the weight of the crop, it has a beneficial effect on the table quality of the potato, provided that the sulphate form is used. If applied in the form of muriate or chloride, the quality is lowered, even when so small a quantity as 1 cwt. per acre is used.

No Manure
3 cwt. Super.
40 % incr.
6 cwt. Super.
51 % increase
9 cwt. Super.
36 % incr.
6 cwt. Super., 1 cwt. Pot. Sulp.
40 % incr.
6 cwt. Super., 1 cwt. Amm. Sulp.
58 % incr.
6 cwt. Super., 1 cwt. Pot. Sulp., 1 cwt. Amm. Sulp.
45 % increase
6 cwt. Market Garden
34 % incr.
6 cwt. Basic Phosphate
26 % incr.

Results at Fish Creek. (Grey clay loam; rainfall, 50 inches.)

The soils of this State for the most part are fairly well supplied with potash, and although their potash content on the average does not come up to the apparent requirements of the crop (as determined by soil analysis and by estimate of the potash requirement of the crop by tuber analysis), it would seem, from data secured from experimental work carried out on various classes of soil for a number of years, that there is ample potash in an available form to suit the demands of the crop under normal Victorian climatic conditions.

The following table shows the amount of nitrogen, potash, and phosphoric acid contained in a 6-ton potato crop (tubers only):—

SIX TONS POTATOES.

Nitrogen.	Potash.	Phosphoric Acid.
67 lb.	77 lb.	24 lb.

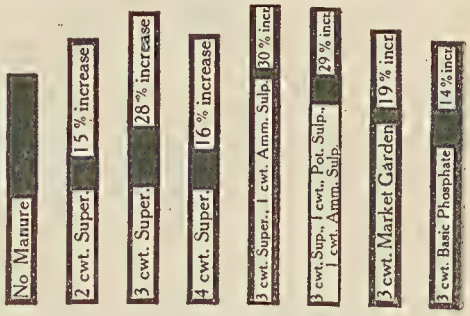
This means that a 6-ton crop takes from the soil, approximately the equivalent of 3½ cwt. nitrate of soda, 1½ cwt. sulphate of potash, and about 1 cwt. superphosphate. From this analysis it will be seen that the

Potato manurial trials at Illowa. (Red volcanic loam; rainfall, 28 inches.)

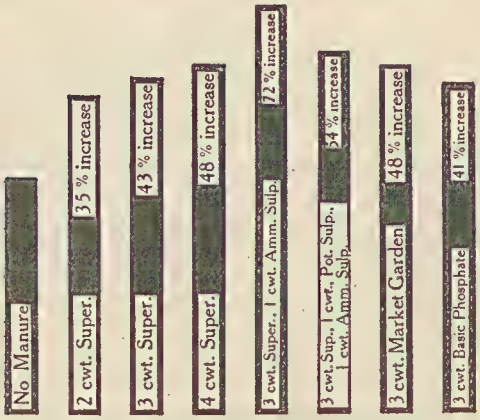
drain on the soil elements made by the crop is greatest on potash.

It should be noted that the above table gives merely the amount of the three principal elements removed by the 6-ton crop. It is probable that much greater quantities of each are necessary in the soil for the development of this yield. The actual chemical content of the tuber portion of the crop therefore can scarcely be accepted as a guide in estimating the quantity of manure required to produce it.

The particular forms of chemical manures to apply, and the rates per acre at which they should be used, have been the subject of considerable experimental work by the Department of Agriculture. The production of heavy crops of any kind would be a much simpler matter if an all-sufficient formula of manure could be stated, but owing to the varying compositions of soils, abrupt variations of which are often to be found in one paddock, it is impossible for a standard manure, efficacious and economical in all classes of soils to be given. The only reliable guide is an actual field test with varying quantities of the



Results of manurial tests at Romsey. (Red volcanic loam; rainfall, 28 inches.)



Results at Wheatsheaf. (Red volcanic loam; rainfall, 45 inches.)

standard fertilizers. Tests of this nature have been carried out by the Department in various districts, and the results obtained are summarized below.

Time of Application.

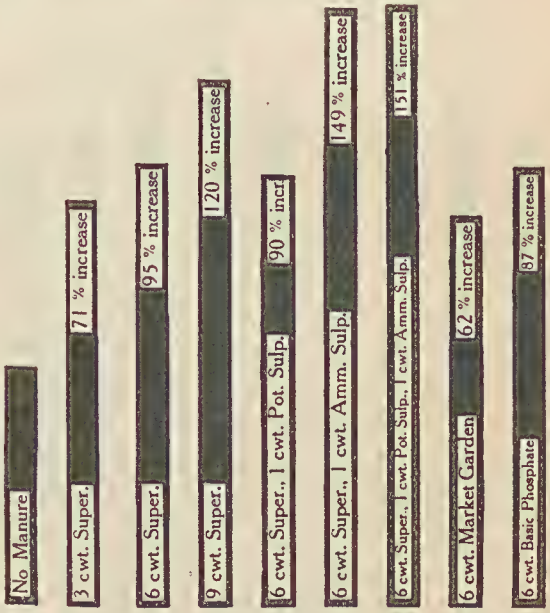
The correct time of application of artificial fertilizers is at the planting of the crop. The correct place is in the furrow with the seed—whether planting is done by hand or machine. It is estimated that any quantity of manure in the furrow is equal to at least half as much again broadcast either before or after sowing. The explanation of this is that when in the row with the seed, the manure is available from the time of the first root development. If broadcast, the root system of the plants have to extend the full width of the rows, 26 to 27 inches, before complete contact with the manure is made.

The trials conducted by the Department include the testing of manures in varying quantities and combinations over a wide range of soils, and much data has been obtained in

Potato manurial trials at Koroit. (Black volcanic loam; rainfall, 28 inches.)

regard to the manurial requirements of this crop. When these trials were instituted at various centres in the State, a range of manures and rates per acre, based on the estimated potato crop manurial requirements of each separate district, was drawn up for trial at each centre.

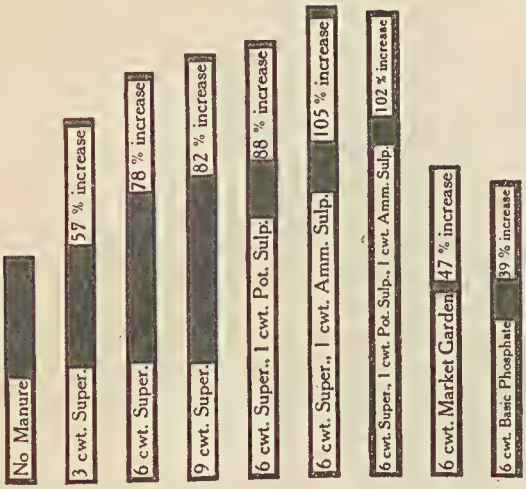
After some years the manurial variations in kind and rate per acre were standardized. The soils in which the experiments were conducted embraced volcanic, peat, clay, and light and heavy loams. In each of these classes of soil there was considerable difference, so that (with the exception of light sand) the soil range included practically all types in which potatoes are grown to any extent in Victoria.


No Manure
3 cwt. Super.
71 % increase
6 cwt. Super.
95 % increase
9 cwt. Super.
120 % increase
6 cwt. Super., 1 cwt. Pot. Sulp.
90 % incr
6 cwt. Super., 1 cwt. Amm. Sulp.
149 % increase
6 cwt. Super., 1 cwt. Pot. Sulp., 1 cwt. Amm. Sulp.
151 % increase
6 cwt. Market Garden
62 % increase
6 cwt. Basic Phosphate
87 % increase

Results at Catani. (Swamp peat; rainfall, 35 inches.)

Excepting in irrigation districts, few potatoes are grown in localities with an annual rainfall of much less than 30 inches, as, for successful yields, the potato crop needs an abundance of moisture during its growing period. A striking illustration of this is seen in the heavy yields recorded during the 1930-31 season throughout the potato-growing districts, which then had their heaviest rain for years. The one exception to this was the Ballarat district which suffered severely in that season from phenomenal summer frosts.

Victoria has a combination of soils and climate well suited to the production of potatoes, although with a heavier summer


No Manure
3 cwt. Super.
57 % increase
6 cwt. Super.
78 % increase
9 cwt. Super.
82 % increase
6 cwt. Super., 1 cwt. Pot. Sulp.
88 % increase
6 cwt. Super., 1 cwt. Amm. Sulp.
105 % increase
6 cwt. Super., 1 cwt. Pot. Sulp., 1 cwt. Amm. Sulp.
102 % increase
6 cwt. Market Garden
47 % increase
6 cwt. Basic Phosphate
39 % increase

Results of manurial tests at Korrumburra. (Grey clay loam; rainfall, 45 inches.)

rainfall the average production per acre would be greatly increased. The presence of water in the soil is imperative for the maximum functioning of both the manures and the root systems of the plants. Plant foods in the soil are assimilated by the roots and transmitted to the overground portions of the plant in the form of sap, and consequently, if the absorption of plant food is to take place readily, the amount of water necessary to supply the needs of the crop must be present. The greatest authentic yield of potatoes in Victoria (25½ tons) was obtained in a wet season.

During the period when manurial trials on potatoes were made at Werribee under irrigation (the Werribee rainfall averages less than 20 inches per annum) the influence of

Percentage increases in yield at Musk. (Red volcanic loam; rainfall, 45 inches.)

moisture on the crop was demonstrated very strikingly. Owing to seepage from the channel carrying the irrigation water to the drop, a few rows of potatoes adjacent and parallel to the channel, were saturated with moisture practically throughout the season. The yield from these rows was approximately 10 tons to the acre, while the remainder of the crop produced approximately 7 tons to the acre, notwithstanding the fact that during the period of the trial the whole area had been given 18 inches of water by irrigation, in addition to several inches of rain.

In some potato-growing countries, artificial manures are applied (in addition to stable manure) at the rate of up to a ton to the acre, with improved results, but such heavy rates of application would not produce a corresponding increase in Victoria, except in seasons of phenomenally heavy summer rainfall. When manurial trials were first instituted in this State up to 9 cwt. superphosphate

No Manure
6 cwt. Super.
39 % increase
9 cwt. Super.
63 % increase
6 cwt. Super., 1 cwt. Amm. Sulph.
102 % increase
6 cwt. Super., 2 cwt. Amm. Sulph.
107 % increase
9 cwt. Super., 1 cwt. Amm. Sulph.
113 % increase
9 cwt. Super., 2 cwt. Amm. Sulph.
132 % increase
6 cwt. Super., 1 cwt. Amm. Sulph., 1 cwt. Pot. Sulph.
92 % increase
6 cwt. Colac Blood and Bone
39 % incr

Potato-manurial trials at Beech Forest. (Clay loam; rainfall, 60 inches.)

was applied, both alone, and in conjunction with nitrogenous and potassic fertilizers, but it was soon found that this rate was much in excess of the quantity that could be absorbed by the crop in a normal season.

Although manures influence quality in potatoes, the greatest factor in this regard is the class of soil in which the crop is grown. The class of soil which produces the most floury type of potato are the loams in districts

of good rainfall. Clay loams or swampy lands (except in very dry years) rarely produce a floury potato, although they may produce an attractive and palatable tuber. Essentials for good keeping quality in potatoes intended for the table are perfect drainage, thorough ripeness, and harvesting in cool weather in the autumn.

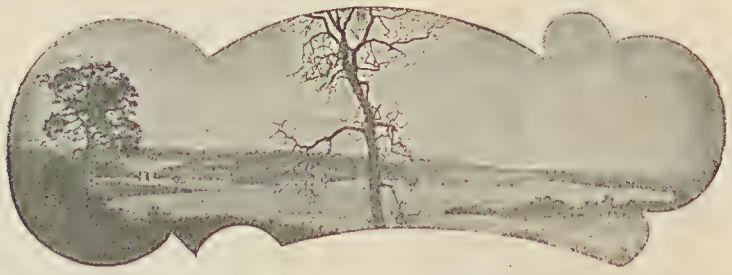
As the result of the experiments mentioned, very definite recommendations can be made with regard to the manure and rate of application which will give the best return on the majority of the potato soils of the State. The accompanying graphs show the summarized results of the experimental work at various centres.

So far as the Beech Forest results are concerned, it should be pointed out that although the heaviest average yield was obtained from the use of 9 cwt. super. and 2 cwt. sulphate of ammonia, the "6 and 1" mixture is recommended, pending further proof of the "9 and 2" being more profitable. This is considered advisable owing to the fact that while there is an appreciable improvement in weight in favour of the "9 and 2" mixture, there is considerable increase in the cost per acre for the heaviest dressing.

The recommendations for the various districts in which experimental plots have been conducted and for other districts where soil and climatic conditions are similar are summarized below :—

MANURIAL DRESSINGS RECOMMENDED.

District.	Soil.	Average Annual Rainfall.	Manurial Treatment Recommended per Acre.
		Inches.	
Gippsland—			
Catani	Swamp peat	35	6 cwt. super. + 1 cwt. ammon. sulphate
Korrumburra	Grey clay loam	45	6 cwt. super. + 1 cwt. ammon. sulphate
Warragul	Clay loam	35	6 cwt. super. + 1 cwt. sulphate of potash
Fish Creek	Grey clay loam	50	6 cwt. super. + 1 cwt. ammon. sulphate
Thorpdale	Clay loam	40	6 cwt. super. + 1 cwt. ammon. sulphate
Central—			
Beech Forest	Clay loam	60	6 cwt. super + 1 cwt. ammon. sulphate
Romsey	Red volcanic loam	28	3 cwt. super. + 1 cwt. ammon. sulphate
Wheatsheaf	Red volcanic loam	45	3 cwt. super. + 1 cwt. ammon. sulphate
Millbrook	Red volcanic loam	35	3 cwt. super. + 1 cwt. ammon. sulphate
Trentham East	Red volcanic loam	45	3 cwt. super. + 1 cwt. ammon. sulphate
Musk	Red volcanic loam	45	3 cwt. super. + 1 cwt. ammon. sulphate
Western—			
Illowa	Red volcanic loam	28	3 cwt. super. + 1 cwt. ammon. sulphate
Koroit	Black volcanic loam	28	3 cwt. super. + 1 cwt. ammon. sulphate



Worms in Sheep

By R. N. Johnstone, B.V.Sc.,
Veterinary Officer.

ROUND worms which invade the stomach of sheep are a source of great trouble to the farmer, and sometimes lead to very serious loss. Where a severe outbreak occurs it is by no means uncommon for half of the lambs to die and for the remainder to be so stunted in growth that their market value is greatly reduced. Moreover, the ewes and other grown sheep may not be altogether safe.

The disease usually is encountered on heavy pasture, and low wet land is generally thought to favour it. Although there may be some support for this theory, there is no doubt that, at times, sheep on the driest of pastures may suffer badly. As with all diseases, and particularly with those caused by parasites, heavy stocking is an important factor—indeed, the condition cannot occur without a certain measure of overcrowding. In some parts of the country farmers have given much attention to the improvement of their pastures by suitable manuring, only to find that, along with the increased sheep-carrying capacity, intestinal parasites have become so numerous as to harm the lambs. While the pasture remained poor, the scattering of the sheep prevented heavy infestation.

Several kinds of worms occur in the sheep's stomach, the one most frequently seen, because of its greater size, being the "twisted wire worm" (Haemonchus contortus). This worm measures from three-quarters to one and a quarter inches in length, and is a little thinner than an ordinary pin. In colour it is a little darker than the stomach wall, and is tinged with red—due to the blood which it has taken from the sheep. The female worm is the larger and has a twisted barber's pole appearance owing to the fact that the red intestine is twisted around other internal parts which are white. It is tapered at both ends. The male worm is smaller and does not present the twisted appearance, but carries a broad membranous portion at one end.

If the fourth stomach of an affected sheep be opened soon after death these worms may be seen moving about in large numbers, and many will be found closely attached to the walls of the stomach. Injury to the sheep is caused by the actual loss of the blood, by indigestion resulting from the irritation of the lining of the stomach, and by the absorption of a poison which the worms secrete.

Another kind of stomach worm which warrants special mention is the "small stomach worm" (Ostertagia circumcincta). This worm is so small that it is not easily seen when in its natural position in the contents or on the walls of the fourth stomach. If, however, a small quautity of the stomach contents, or a piece of the stomach wall of an affected sheep be washed in water, these minute worms may be seen like fine pieces of silk in the water, one-quarter to one-half inch in length and of a dull pink colour. This worm lives in the same position as the twisted wire worm, and affects sheep in the same way.

One other group of worms which should receive special mention is the *Trichostrongylidae*. This is a very large group of worms which infest the stomach and small intestines of sheep, and produce a disease known as Trichostrongylosis. They are small, hair-like worms, and with one exception are similar in appearance, or even smaller than, the "small stomach worm."

The worms described occur in all parts of the world, and are particularly harmful to sheep. They are also responsible, in part at least, for causing land which is heavily grazed with sheep to become what is popularly known as "sheep sick."

Symptoms.

The first swmptoms of worm infestation are general unthriftiness, a dry appearance of the fleece, and loss of condition. In the later stages diarrhoea appears, the animal becomes

very thin and bloodless, the membrane on the inner side of the lips and eyelids whitens, and a watery swelling may appear under the jaws. If these symptoms appear, and nothing be done by way of treatment or removal of the sheep from the source of continual re-infection, many of them will die. In severe outbreaks, where the worms are exceptionally numerous, some lambs may die suddenly without previously showing the symptoms just described.

Life History.

A short account of the life history of these parasitic worms will greatly assist the direction of intelligent effort toward suitable measures of control. In their situation in the intestine, the female worms lay large numbers of eggs, which reach the ground with the droppings. Under favorable conditions of moisture and temperature on the ground, a minute larval worm develops in the egg, which may hatch within 24 hours from the time it reaches the ground.

The young worm now passes through two stages or moults. It must complete these stages and reach the third or "infective larval stage" on the ground before it is capable of growing to maturity when swallowed. The time taken by the larval worms in passing through the first and second stages to reach the infective stage may vary between three days and several weeks, depending on conditions of temperature and moisture; cold or dryness delays their development. Although in this country development may be delayed by excessive dryness, the temperature is rarely below that best suited to the larvae, and particularly in the spring months, they may reach the infective stage in less than ten days. This period is of some importance for control measures.

The "infective larva" retains the skin shed at the second moult as a loose sheath, which acts as a protective covering and renders the larva very resistant to extremes of cold, dryness, or to the chemical action of such substances as lime or salt. Another and most unfortunate attribute to this infective larva is its ability to remain alive for a long period in a field. Although the majority die if not eaten by a sheep within twelve months, some few may remain alive even longer. This larva is also able to travel in the moisture of the soil, and after having been buried to a depth of 6 inches may, under favorable conditions, regain the surface in seven days. Thus, though ploughing contaminated fields may succeed in destroying many of the weaker larvae, it cannot be relied on as a means of prevention. The same power of movement is used in climbing on the herbage in the dew or rain on its surface where the larva lies in wait to be taken in by a grazing sheep.

When this happens the protecting sheath is rapidly dissolved and the young worm passes through another larval stage in the fourth stomach, and finally develops into the mature worm. The time which elapses between the swallowing of the infective larval worm by the sheep and the appearance of eggs in the droppings is three weeks. Thus the minimum time for the complete cycle of development is three weeks and three days, but actually under field conditions it takes much longer.

Prevention and Treatment.

When outbreaks occur it is important to know which particular kind of worm is responsible, since there is a satisfactory medicinal treatment for the twisted wire worm,

Drenching a sheep with the drenching horn; the operator is holding the head of the sheep a little too high.

though the other worms do not respond to any treatment yet known. For this reason, and also because the condition may be confused with other diseases, it is always desirable to call in the assistance of a veterinary surgeon if one is available, or to forward the whole internal organs of a freshly dead sheep to the Director, Veterinary Research Institute, Story-street, Parkville, for examination.

When forwarding the organs tie the bowel ends securely to prevent leaking, place the organs in a kerosene or petrol tin which has previously been half filled with water, to which one cupful of formalin has been added, solder the tin, and forward by rail to the Spencer-street railway station, legibly addressed. At the same time forward by post to the Chief Veterinary Officer, Department of Agriculture, Melbourne, a full description of the outbreak, and advise him of the despatch of specimens.

For the treatment of sheep infested with the twisted wire-worm, a drench of copper sulphate (bluestone) and nicotine sulphate solution, when properly administered, has been found to be safe and effective. The solution is made up by dissolving 2 oz. of pure crystal copper sulphate in 1 gallon of water, in a porcelain or enamel container. The preparation may be hastened by dissolving the bluestone in a little hot water and bringing the quantity to 1 gallon afterwards. To this add 2 oz. of nicotine sulphate, 40 per cent. (Blackleaf 40), which may be bought from any seedsman or chemist. This quantity will be sufficient for eighty adult sheep, and should be given in the following doses:—

For adult sheep—2 oz. (4 tablespoonfuls).

For sheep, 12 months old—Three parts of stock solution and 1 part of water; give 2 oz. as a dose.

For lambs, 6 months old—1 oz. of stock solution.

For lambs, 3 months old—One part of stock solution and one part water; give 1 oz. as a dose.

Drenching horn and solution.

Special brass or copper drenching horns, which hold the exact dose, may be procured for administering the drench. The sheep should be drenched standing on all four feet, and the nose held about level with the eyes. Hold the head in position with the left hand, with the four fingers under the jaw and the thumb over the nose. The jaws should not be gripped tightly.

Incorrect method of drenching—the sheep's head is held much too high.

The person dosing should place the drenching horn through the side of the animal's mouth, over the tongue, and between the back teeth, and pour the dose in slowly. The head should be lowered immediately if the sheep begins to cough.

As mentioned in the account of the life histories of the various worms, infestation takes place through sheep eating grass on which the immature forms of the worms are encysted. Infestation may also be brought about by sheep drinking water which contains the larval forms. Sheep, when returned to pasture after dosing, may thus be reinfested, especially during the spring and summer months. In the case of severe infestations a second dose should be given within a fortnight. Young sheep and lambing ewes are more liable to suffer harmful effects from an infestation, and efforts should be made to prevent this by carrying out treatment with copper sulphate and nicotine sulphate every four weeks through the spring, summer, and autumn months. Dosing should be commenced as soon as the grass begins to grow. By this method the young worms are destroyed before they can lay eggs to reinfest the pasture.

[*Continued on page* 636.

Brown Rot of Cherries

By S. Fish, M.Agr.Sc., Assistant Plant Pathologist

UNDER Victorian conditions Brown Rot is the most important disease of cherries. Indeed, this disease may be said to be a limiting factor to cherry production in this State. In some seasons the cherry crops in certain orchards have been reduced by as much as 70 per cent. through the ravages of this disease.

Where conditions have been favorable for infection, brown rot is seen on cherries at blossoming time. The affected blossoms turn brown, and the fungus works up the inside of the blossom stalk to the twig (see plate 1). Some of the affected blossoms remain attached to the tree because of a gummy exudate which is produced at the junction of the blossom stalk and the twig. The affected blossoms which remain attached produce periodic crops of spores from spring until the fruit is picked.

At picking time one frequently sees clusters of cherries affected with brown rot, and the source of the infection usually is traceable to old sporulating blossoms, which are in the centre of the clusters.

Fruit infection may occur when the cherries are green but, under our conditions, this class of infection has always been traceable to an injury made by a Looper caterpillar, the fungus having gained an entrance through the injury. Such cherries rapidly turn brown, become partly mummified, and will remain attached to the tree. The fungus will sporulate periodically from this source from early spring to picking time.

Under Victorian conditions, it is noted that when the fruits reach a certain stage of development they may be readily infected through an uninjured skin by the brown rot fungus.

Laboratory studies have shown that green cherries may be infected through uninjured skins, provided that the fruits are exposed for relatively long periods to favorable conditions of temperature and moisture. With the more mature fruit it is seen that infection through uninjured skins will occur with a much shorter duration of favorable conditions.

Plate 1.—Two healthy and two infected blooms.

A temperature of 78 deg. F. is the most favorable for infection, and wet conditions which maintain a high relative humidity for a period of some hours are also necessary for infection. Field observations made locally indicate that excess of nitrogenous manure appears to have a very marked influence in favoring brown rot infection of all stone fruits.

The spread of the disease in mature fruit at picking time is very rapid, particularly in those varieties such as Twyfords, which have a tendency to form close clusters of fruit. After picking, numerous clusters of brown-rotted cherries are seen hanging to the trees, and where these are permitted to remain they rapidly mummify (see plate 2), and will continue to produce periodic crops of spores throughout the Summer, Autumn, Winter, and

[*Continued on page* 618.

Chemical Composition of Passion Fruit

By W. R. Jewell, M.Sc., Research Chemist

PASSION fruit (*Passiflora edulis*) is perhaps more widely grown in Australia than in any other country, and this may explain why a search of the literature failed to disclose published data on its chemical analysis. As inquiries relative to the composition of passion fruit are received frequently an average sample was analysed recently, and the results obtained are recorded below.

The sample consisted of 24 pieces of average size and normal ripeness, the mean weight per piece of fruit being 27.5 grams.

The fruit was divided into—

Pulp	..	55.2 per cent.
Shells	..	44.8 „

The composition of the pulp, including seeds, is shown in Table I.

TABLE I.—COMPOSITION OF THE PULP.

—	Fresh Basis.	Dry Basis.
	%	%
Moisture	70·4	..
Ash	0·7	2·4
Protein (N. x 6·25)	2·9	9·9
Fat	2·1	7·0
Fibre	7·7	26·0
Acidity—as citric acid	2·8	9·5
Reducing sugars—as invert sugar	7·6	25·5
Non-reducing sugars—as sucrose	1·6	5·4
Starch (difference)	4·2	14·3

A partial analysis of the shells was made with the results shown in Table II.

TABLE II.—COMPOSITION OF SHELLS.

—	Fresh Basis.	Dry Basis.
	%	%
Moisture	79·8	..
Ash	1·8	8·8
Protein (N. x 6.25)	2·4	12·2

The mineral composition of passion fruit is shown in Table III.

TABLE III.—MINERAL COMPOSITION OF PASSION FRUIT.

—	Pulp.		Shells.		Whole Fruit.	
	Fresh Basis.	Dry Basis.	Fresh Basis.	Dry Basis.	Fresh Basis.	Dry Basis.
	%	%	%	%	%	%
Total ash	0·72	2·43	1·78	8·82	1·19	4·76
Silica (SiO_2)	0·01	0·04	0·02	0·10	0·01	0·04
Silica-free ash	0·71	2·39	1·76	8·72	1·18	4·72
Phosphoric acid (P_2O_5)	0·16	0·55	0·05	0·25	0·11	0·44
Iron and alumina ($Fe_2O_3 + Al_2O_3$)	0·020	0·067	0·017	0·082	0·019	0·08
Lime (CaO)	0·012	0·041	0·050	0·25	0·029	0·12
Magnesia (MgO)	0·057	0·19	0·044	0·22	0·051	0·20
Potash (K_2O)	0·31	1·05	0·96	4·76	0·60	2·40
Soda (Na_2O)	0·024	0·081	0·025	0·12	0·024	0·10
Chlorine (Cl)	0·005	0·018	0·21	1·05	0·10	0·40

Household Insects and their Control

3—Insects Affecting Clothing, Carpets, etc.

By C. French, Government Biologist, and R. T. M. Pescott, M.Agr.Sc., Entomologist.

Previous articles of this series, dealing with the use of insecticides and fumigants and common insects pests were published in the July and August issues of this Journal.

Clothes Moths.

CLOTHES moths cause much damage to materials of animal origin, such as woollens, furs, hair and feathers, while their ravages to articles of clothing, upholstered furniture, piano felts, carpets, &c., are familiar to all. Damage by clothes moths is caused by the feeding activities of the small caterpillars of these insects, and not by the winged moths, whose only function is to lay the eggs, from which the young caterpillars develop.

Two species of clothes-moth are commonly found in Victoria, namely, the Case-making Clothes-Moth (*Tinea pellionella L.*) which is the most common and the most destructive, and the Webbing Clothes-Moth (*Tineola bisselliella Hum.*). The adults of both these species are small, having a wing spread of one half-inch or less. In general appearance and habits they are similar, but differ slightly in colour, the webbing species being entirely pale-buff or straw colour, and the case-making species greyish yellow, or dark buff, with rather distinct dark spots on the forewings. Both species avoid bright light, and are most commonly seen in dwellings at night, flying in dimly-lit corners. They occur in greatest numbers in spring and summer, but occasionally specimens are found in most houses at all times of the year. Another closely allied species (*Tinea trapetzella L.*) is occasionally found attacking wool in store, but it has not yet become a serious pest.

The winged clothes-moth does not feed, but, during its brief life, which varies in length from a few days to a month, it deposits tiny, oval, pearly-white eggs, sometimes as many as 150, among the hairs or meshes of the material on which the larvae later feed. The eggs hatch in from a week to ten days, and the young larvae, which are very sensitive to light, seek out protected situations in the folds of fur and woollen garments, or in the interior of upholstered furniture, and commence feeding immediately. Clothes-moth larvae have pearly-white bodies, and pale brown heads. When mature, they measure about half an inch in length. The life of the larvae varies from a few weeks to as long as two years, and they may be found in all stages of development throughout the year. As they feed and grow, they moult or shed their skins several times. The larvae of the two commoner species differ markedly in their habits, and thus may be readily distinguished. The larvae of the webbing clothes-moth move about freely, and spin silken webs promiscuously in infested fabrics, often forming unsightly webs. They construct flimsy tube-like silken shelters, in which they shed their skins and into which they retire frequently, finally pupating before the emergence of the winged moths. Larvae of the case-making species construct small cylindrical cases of tightly woven silk, and frequent the material on which they feed. Throughout their life they live within the case and in feeding, protrude the forepart of the body and drag the case about with them. Eventually they pupate within the cases, turning finally into the winged moths.

Control.

Articles of clothing, and other materials subject to attack, should not be left undisturbed for long periods, in places such as cupboards, attics, trunks, &c., particularly during the summer months, unless adequate precautions are taken to protect them from moth injury. Such articles, having been thoroughly brushed and beaten, preferably in strong sunlight, should be placed in well made trunks or chests,

with tight-fitting lids, or in cardboard boxes sealed with paper strips. As an alternative measure, the placing of clothing in two thicknesses of strong wrapping paper, taking care to see that the edges are turned so that no moths may gain entrance, is recommended. One pound of naphthalene flakes, or a similar quantity of paradichlorbenzene scattered among the garments in an average sized trunk, assures perfect protection from moth injury.

Clothing that is not protected in this manner should be examined, and carefully brushed at frequent intervals during the warm weather. Articles of clothing already infested with moths may be freed of the insects by placing them in a tight trunk, and fumigating with carbon bisulphide, preferably at a temperature of not less than 70 deg. F. This is done by placing a saucer containing about three fluid ounces of carbon bisulphide on top of the clothing, and closing the lid tightly for at least 48 hours. Carbon bisulphide is highly inflammable, and therefore no lights should be brought near the trunk while fumigation is in progress.

Whenever clothes-moths are seen flying in the house, it is important to take prompt measures to ascertain and remove the source of infection, before it has a chance of spreading. Neglected trunks and old clothing stored in cupboards, &c., are frequent sources of infection. The frequent use of a vacuum cleaner on carpets and upholstered furniture and other articles subject to moth injury, has a definite control value. When carpets and rugs are suspected of being infested, they should be thoroughly cleaned on both sides with the vacuum cleaner, which may also be used removing the lint from floor cracks and behind baseboards.

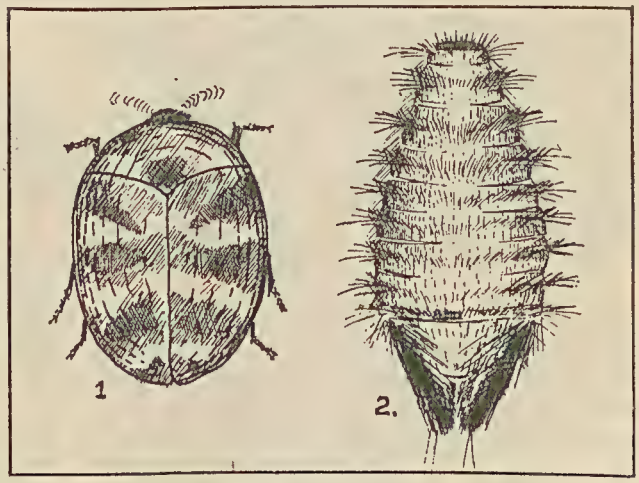
Moth damage to piano felting may be guarded against by placing about one pound of naphthalene flakes in open receptacles, or suspended cheesecloth bags inside the piano, and keeping the piano closed when not in use. When the house is to be closed for a time, which often happens during the summer months, it is a wise precaution to scatter naphthalene flakes liberally over rugs and carpets, afterwards rolling them tightly, and tying them up in stout brown paper.

When upholstered furniture becomes infested with moths, it is often difficult to eradicate them. There are two methods which give excellent results, and which may be used under different circumstances. In the first or "heat" treatment the furniture is exposed to a temperature of 130 deg. to 140 deg. F. for a period of not less than six hours. The other method, which is considered more satisfactory and more suitable for most cases, consists of fumigating either under atmospheric conditions or in vacuum, with carbon bisulphide or hydrocyanic acid gas. This last method should be carried out only in a properly constructed fumigation chamber, by an experienced fumigator. Other less satisfactory measures consist of removing the covering of the furniture, destroying all moths and larvae found, and liberally soaking infested areas with petrol, observing, of course, precautions against fire risk.

When entire buildings are badly infested, fumigation with hydrocyanic acid gas may be resorted to, using not less than 2 lb. of calcium cyanide per 1,000 cubic feet of space.

Carpet Beetles.

The Carpet Beetle (*Anthrenus* sp.) is a common pest, both in warehouses, shops, and private homes. As its name implies, carpets are the main items attacked by this insect, but it will feed also on material of animal origin, and museum specimens and silken and woollen fabrics are also very freely attacked. This beetle is frequently confused with the well-known clothes-moth, but the distinctive little hairy caterpillars, or perhaps the cast skins, will serve to establish its identity. The commonest species found in Victoria is the Carpet Beetle (*Anthrenus varius Lea*).



The Carpet Beetle.

1.—Adult. 2.—Larva.

The damage done by this insect is caused by the feeding activities of the larvae. The beetle is very small, about one-eighth of an inch in length, and of a similar shape to the Ladybird Beetle. In colour it is a marble-brown and grey, though on some specimens black patches may be seen where the coloured scales have rubbed off, showing the black ground-colour beneath. This beetle flies around the house laying its eggs on food suitable for the larvae, which hatch out in from seven to eighteen days, the incubation period depending on temperature and humidity conditions. The larvae are small hairy grubs, measuring about three-sixteenths of an inch in length when fully grown, of a dark-brown colour, with lighter stripes between the segments. They are fairly active creatures and feed voraciously, undergoing a series of moults as they grow. The cast skins of the larvae are often rather conspicuous. When mature the larvae pupate within the last larval skins later emerging as the adult beetles.

Control.

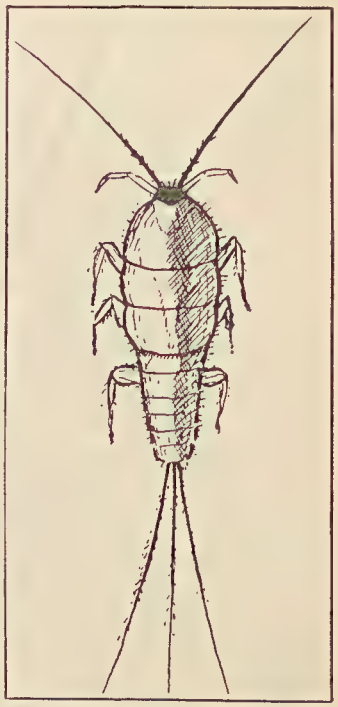
Carpets are generally attacked on the edges or where placed, under furniture, &c., and, when signs of the presence of the beetle are noticed, the carpet and the floor and skirting board in the vicinity, should be given a thorough soaking with benzine, petrol, or the pyrethrum-kerosene mixture. If possible, the carpet should be taken up, thoroughly beaten, and hung in the sun for a few hours. The use of a vacuum cleaner on both sides of carpets and rugs is also very effective.

When fabrics and cupboards, &c., are attacked, a similar treatment will be found effective, and particular care must be taken to give all cracks and crevices a good soaking. It should be remembered that petrol and benzine fumes are extremely inflammable.

Warehouses and shops which are badly infested, should be fumigated with carbon bisulphide or hydrocyanic acid gas, though small infestations can be satisfactorily controlled by the measures described previously.

Silverfish.

Silverfish (*Lepisma saccharina L.*) are very common insects, being widespread in their distribution. In fact, they are usually found in small or great numbers in every household. They are slender, wingless, scale-covered insects, possessing a pair of very long antennae or "feelers," and three tail-like appendages at the end of the abdomen. They are very commonly found in dwellings, libraries, bakehouses, and other buildings, where they may be found in warm, moist, secluded situations in and amongst papers, books, clothing, &c. When disturbed or suddenly exposed to strong light, they very actively seek a hiding place.



Silverfish.

Silverfish feed chiefly on starchy materials and glue, and for this reason sometimes cause serious damage to glazed papers and binding of books. In addition, they attack starched clothing and fabrics, and feed on dry foodstuffs containing starch. Silverfish are especially prevalent in damp houses, and their presence in large numbers frequently indicates that the ventilation beneath the floor is not so good as it should be; otherwise the insects should not cause appreciable damage, unless goods as indicated above are left undisturbed for considerable periods.

Control.

Unless the silverfish are very numerous or damage is being caused by them, it is generally not worth while taking any special measures against them, as the ordinary methods of house cleaning will keep them in check.

Silverfish thrive best in situations left undisturbed for relatively long periods. When their presence is detected in any numbers, therefore, the infested rooms should be subjected to a thorough house cleaning. This should be followed by lightly dusting fresh insect powder or sodium fluoride in the places where the insects are most numerous. Sodium fluoride retains its killing powers indefinitely, but should be used with caution owing to its rather poisonous properties.

A poison bait may be used to control the insects, but this is not suitable for places to which children have access. The bait is made as follows:—

A thick starch paste is prepared, and a liberal amount of arsenic is added (a teaspoonful of arsenic to a cupful of flour). Spread this on strips of cardboard, and place in the crevices in which silverfish occur.

Fumigation with hydrocyanic acid gas is also very satisfactory, but the expense often prohibits its use, except in extreme cases.

Book Lice.

Book Louse.

Book Lice or psocids are tiny, pale yellowish, or greyish-white wingless insects, measuring less than one-twelfth of an inch in length. They are frequently found in rattan furniture, in cupboards where books, old papers, and periodicals are stored, and wherever dried animal matter of any kind is left undisturbed. They feed on a variety of organic substances, but owing to their small size and feeble mouth parts, are rarely considered injurious.

While these insects are generally known as book lice, they are not in any way related to true lice. In general outline, and in their very active movements, they do, however, resemble lice. The two species most commonly found in Victoria are both introduced forms, namely *Atropos pulsatoria Mull,* and *Lepinotus inquilinus Heyd.*

Control.

Normally, book lice occur only in small numbers in dwellings, and under such circumstances a thorough house-cleaning, combined with sunning and airing of the infested rooms and the objects therein, will give satisfactory results. In badly-infested rooms or cupboards, the insects may be destroyed by fumigating with carbon bisulphide, or with hydrocyanic acid gas, using 1 lb. of calcium cyanide to each 1,000 cubic feet of space. In less severe cases, the insects are easily killed by spraying with benzine, petrol, or with the pyrethrum-kerosene spray. This should be done thoroughly, as the materials will kill only on contact.

Insects Affecting Other Furniture and Timber.

There are two main types of insects attacking woodwork in Victoria, whose damage under certain conditions assumes large proportions. These are (*a*) Timber Borers, a term which is used to include the Powder Post Beetle (*Lyctus brunneus Steph.*), and the Furniture Borer (*Anobium punctatum de Geer*), and (*b*) White Ants, in which are included the genera *Porotermes* and *Coptotermes.*

Timber Borers.

During the last few years, householders throughout Victoria have suffered very considerably from the depredations made upon valuable furniture by the insects known as wood borers. Further, they often cause great damage to the beams and other woodwork used in the frames of houses, as well as in the flooring, producing as a result, "wormy" timber.

The external indications of the presence of these destructive insects are usually the presence of small circular perforations in the surface of the wood, and little heaps of yellow dust on the ground beneath. The perforations are the entrances to, or rather exits from, long cylindrical tunnels, traversing the timber in various directions, generally in that of its length. They are often so numerous as to leave only the narrowest of partitions between the tunnels, reducing the whole interior to a mere net-work, so fragile that it will crumble away on the slightest touch, although to outward appearances, except for the few perforations, the wood seems perfectly sound. The beetles are not often seen, as they spend a large part of their lives in their burrows, and, like white ants, prefer to work in the dark.

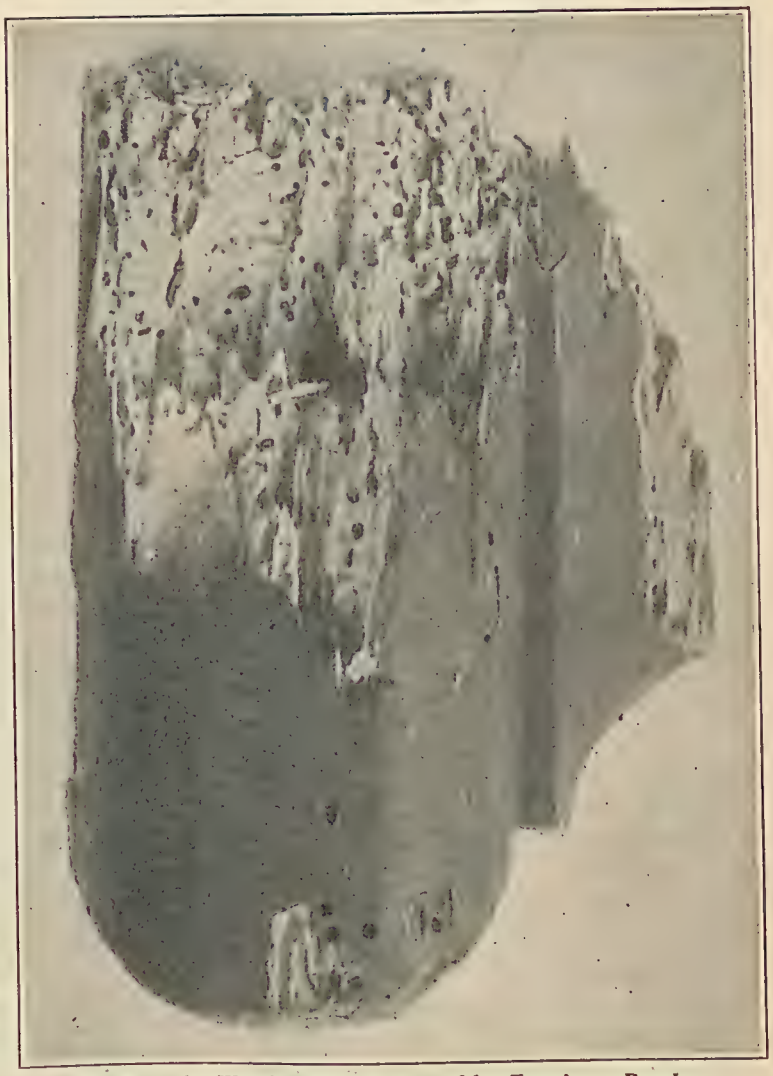
The Powder Post Beetle.

The chief timber-boring insect of the whole variety is known as the Powder Post Beetle (*Lyctus brunneus Steph.*). This beetle, which is dark brown and sometimes almost black in colour, measures about one-sixth of an inch in length. The female deposits her eggs on the underside of timber, in the pores and ends. The eggs hatch very quickly, and the larvae or grubs at once commence to work into the wood. The beetles are easily detected, for

they and their larvae feed on the timber, and some of the sawdust, which is passed through them, can usually be seen collected in small heaps. It is not always possible to detect them before the damage is done, as sometimes they commence boring underenath the boards, joists, and other timbers of the building, and their presence therefore is not suspected until the timber begins to fall to pieces.

The perfect insects are found in the timber all the year round. Occasionally in hot weather they may be seen emerging in large numbers from wickerwork and rattan furniture, and transferring their attention to any kind of timber that is nearby. The backs of bookcases, wardrobes, cupboards, and the inside woodwork of pianos are particularly subject to attack, and table legs and wickerwork furniture seem to be among their favorite breeding places.

The Powder Post Beetle first came under notice in the year 1862, and it is now to be found in most parts of the world. It was probably first introduced into Australia in wickerwork, rattan, or bamboo furniture, or in tool handles, or other timber.



Portion of a Window Sill destroyed by Furniture Beetles.

Many assertions have been made that the furniture beetle attacks hardwoods only, but such is not the case. In fact, in the hardwood timbers affected by them which we have seen, the ravages have rarely gone beyond the sapwood, and if timber merchants see that the sapwood is removed, builders and others need have no fear in using these timbers. In the case of hickory, cedar, New Zealand kauri, blackwood, ash, deal, oak, and numerous other woods, the borers do not confine themselves to the sapwood only. Often when they attack old timber in a house, they reduce it to sawdust in a very short space of time. Firewood cut in the forest and left on the ground is often attacked by borers, and becomes a medium by which the pests are brought within reach of houses and furniture.

The Furniture Borer.

Another insect which causes considerable damage to timber is the Furniture Borer (*Anobium punctatum de Geer*). This beetle is scarcely one-sixth of an inch long, and is dark brown in colour. The adults of this wood-boring insect place their eggs on the wood: The minute grubs hatching from the eggs bore directly into the wood, forming at first holes so small that they are scarcely visible to the naked eye. They do not stop in the sapwood, but extend their burrows to the very

heart of the wood, each grub making for itself a separate burrow, in which it remains until matured. The borings and excrement from the wood are pushed out from the original entrance as the borers move backwards and forwards, which they must frequently do, both to clear the burrows, and to enlarge them to accommodate the increasing size of their bodies. Thus the holes are often found to vary in size, and to extend several feet through the wood.

No wood is too old and dry for the borers to extract nourishment from it; in fact, the older and drier it is, the better they like it. The tunnels made by the Furniture Borer are about twice the size of those made by the Powder Post Beetle, and look as if they had been burnt out. The direct damage caused by the actual excavation and devouring of woodwork out of doors is not the only injury for which they are responsible, for damp air enters the substance of the wood throughout the burrows, meeting there the excrement stored in great quantities, and the tunnels become good bases for the growth of fungi, whereby decay is rapidly accelerated.

Control.

When building, it is advisable to have all the timber carefully inspected, and any pieces showing signs of the borer should be rejected. As a further precaution, a dressing of an insecticide is well worth while, the best for the purpose being a mixture of equal parts of kerosene and creosote.

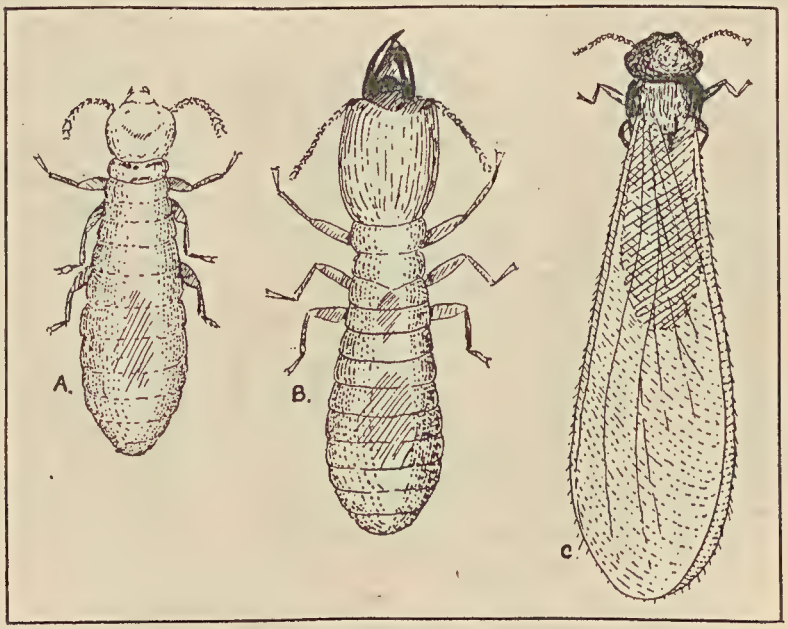
If at any time the framework of the house is found to be infested with borers, the following procedure should be followed:—Remove entirely pieces so badly infested as to be seriously weakened. In most cases, it will be found that a thin strip of sapwood only has been attacked. This should be removed and burnt, and the affected timbers, and those in the vicinity given two or three thorough dressings with the kerosene-creosote mixture, which may either be sprayed or painted on with a large soft brush.

In furniture, interior panelling, &c., where the stain left by the creosote would be objectionable, petrol may be used, either alone or mixed with one of the liquid insecticides. To secure penetration when the surfaces are varnished it may be necessary to inject the liquid into the borings by means of an oil can or a syringe. With the piano or other valuable furniture, which it would be difficult to treat in this manner, fumigation may be advisable, preferably by a vacuum process. When softwood flooring, &c., is so badly affected as to necessitate its removal, it may be advisable to replace it with treated hardwood, which is much more resistant to pests.

White Ants.

White Ants (*Termites*) are a fairly common pest in houses in Victoria, sometimes being the cause of considerable damage to a building. The two species concerned are *Porotermes adamsoni Frogg.* and *Coptotermes acinaciformis Frogg.*, the former being the more destructive.

White ants live in a community, to some extent analogous to a hive of bees. The nest contains a single "queen," whose sole duty is to lay eggs. These eggs are attended to, and the larvae reared by the workers, who also do the whole of the work of the community, such as building and extending the nest. The



White Ants.

A. Worker. B. Soldier. C Winged Female.

workers are of a dirty yellow colour, a little over a quarter of an inch in length, somewhat similar in appearance to an ant, but without the typical constriction between the thorax and the abdomen. Another type of white ant found in the nest is known as the "soldier." This ant is similar in appearance to the "worker," but is distinguished by a very large head, armed with a formidable pair of jaws or mandibles. The duty of the soldier is to defend the nest in times of danger. Other types are sometimes found in the nest.

The workers and soldiers are quite blind, and do all their work in the dark. When it is necessary for them to come to the surface, as when crossing stonework, they build covered tunnels of clay and woody material, only the heads of the workers being exposed at the entrance as the tunnel progresses. At certain times of the year, winged males and females appear. They are darker in colour than the workers, being of a brown to dark-brown colour, and possess long wings extending far beyond the end of the body. The winged forms emerge from the nest in a swarm, and each couple flies to a place to begin a new nest, where the wings are cast off, and the female begins to lay eggs. Few of the multitude of termites which emerge from the nest succeed in starting a new colony, many falling prey to their numerous enemies, or being otherwise destroyed.

Infestation of houses usually takes place at the ground level by a pair of winged white ants finding a suitable spot to start a nest. Some infestations perhaps originate from white ants introduced in firewood. When the workers are bred, they begin eating the timbers in the vicinity, and run tunnels up the inside of the wood, frequently extending them considerable distances throughout the building. As the white ants never come to the surface, they may do considerable damage before their presence is detected, may-be by the collapse of some portion of the building, sometimes on the first or second floor. A fact made use of in the control of the insects is that however far the white ants may go in a house, it is necessary that they maintain a connexion with the ground. So vital is this, that if the ground connexion be severed, those ants in the building will die in a very short space of time.

Control.

When it is known that white ants are in a building, the first step to be taken is to locate the spot where they come in contact with the soil. This may be a fairly difficult matter, but it is quite essential if the pests are to be eradicated. In some cases the connexion is through the wooden stumps on which the building is erected, and little or no indication may be seen from the outside, but by sounding them, it is a fairly easy matter to discover which of them have been bored. More rarely, the insects will build covered tunnels over the surface of brick, stone, or concrete foundations, thus reaching the woodwork of the floors and walls.

Affected stumps should be removed and replaced with new timbers, which have been soaked in a mixture of equal parts of creosote and kerosene. The tunnels over the stonework, &c., should be removed, and the surface given a liberal coating of the creosote-kerosene mixture. If the nest is found in the ground beneath the house, it should be removed and burned, and in all cases the soil should be given a liberal sprinkling with the creosote-kerosene mixture. It is a good precaution to treat the whole of the underneath portion of the building at the same time.

The borings of the white ants should then be traced into the building, and defective timbers removed and replaced by creosote treated ones. As they attack timber from the ends, and work along the grain, always keeping away from the surface, it is evident that timbers, if possible, should be treated after cutting to size, but before being placed in position in a building.

Where the ants are known to be a serious pest, it is advisable to have no timber of any kind in contact with the ground, using only brick, concrete, or stone foundations, and at the same time to treat all wood coming into direct contact with such stonework.

While woods are somewhat variable in their resistance to the white ant, none are immune except the Murray Pine; or, at least, this timber is very rarely touched.

Orchard and Garden Notes

By Edward E. Pescott, F.L.S.

Petunias.

The Flower Garden.

THIS is the time for transplanting all summer and autumn flowering annuals. The list includes the marigold, zinnia, aster, phlox, sunflower, cockscomb, cosmos, and petunia. If several small points for planting are noted, every plant should grow, and there will be no misses in the beds.

First, the seedlings should be watered before lifting. If purchased from shops, the bundles should be soaked in water before planting out. They must not be set out in dry soil; the beds should be lightly watered before commencing.

After planting out, a work which preferably should be done towards evening, the plants should be well watered. Regular daily waterings should follow for three or four days, by which time the plants will be well established. If these simple rules are followed there will be very few misses.

At the end of the month rose bushes should be cleared out, thinning out weak shoots, and cutting back all old flowering heads. The plants should be well mulched with lawn clippings, old grass, or old stable manure. This will keep their roots cool during summer.

Iceland poppy seed should be sown before Christmas. The plants which result from this sowing will flower through the winter. The seed should be thinly scattered into a sandy seed-bed, and lightly covered with crumbled leaves or very old dry stable manure.

The Vegetable Garden.

Early potatoes should be dug and stored. It is not wise to leave these too long in the ground, as they may come again into growth. During summer all vegetables should be very well watered, especially if the days are hot. A mulch of stable manure is beneficial, and if this is supplemented by ample liquid manure the vegetables will make a quick succulent growth. This applies especially to mustard and cress, one of the best of green summer saladings.

All kinds of bush and runner French beans may be sown now. Before sowing the seed, dig a good supply of manure into the beds. For a late crop of French beans the seed may be sown, in cool districts, as late as February.

Seed-beds should be prepared for sowing seeds of cabbage, cauliflower, sprouts, kale, and similar vegetables. The seed-beds should be in an open sunny position, so that the seedlings will not become drawn, as will always be the case if in a shaded spot. Light sandy beds, without manure, are the best. Seeds of the cabbage family should be sown in the poorest of soils, so that their growth, as seedlings, will not be too vigorous. Vigorous growth comes after transplanting.

Plants of the cucumber-pumpkin family should be well watered, to increase the growth and size of the fruits.

The Orchard.

By this time, the first codling moth spraying will have been done, and preparations made for the second. All bands, whether of hessian or of chemically treated cardboard, should be on the trees. The latter bandages are now being used in all districts. If this work has not been done already the trees should be bandaged quickly in order to catch the first brood. This is a very important factor in the use of these bands, as it is necessary to catch as many of the early brood as possible.

Red scale of citrus should be attacked now. Fumigation with hydrocyanic acid gas should be the first method of attack, since this is the most efficacious treatment. The alternative method is to spray with one of the white oils. Two sprayings will be necessary, one to be given at the end of this month. In spraying, the under side of the foliage should be sprayed as well as the upper.

Brown Rot of Cherries

(*Continued from page* 60)

early Spring. These cherry mummies hanging to the trees appear to be the most important source of carry-over for the fungus.

Methods for the control of brown rot of stone fruits are under investigation by the Department of Agriculture at present. Until such time as improved control measures are worked out growers would be well advised to adopt the following tentative programme which has considerably reduced cherry brown rot fruit infection under Victorian conditions—

1. Pull off and destroy all cherry mummies;
2. Plough the ground before the buds open, so as to turn in any infected material that has fallen to the ground at pruning time;
3. Spray with Bordeaux 6.4.40, or Lime Sulphur, 2½ gallons to 80, at the green tip stage.
4. Spray with Lime Sulphur 1–80 when a proportion of the fruit is quarter-grown;
5. Spray with Lead Arsenate, 3 lb. of paste to 80 gallons of water, early in October for protection against the Looper caterpillar;
6. Spray with Lime Sulphur 1–80 when the fruit is quarter to half grown;
7. If necessary, spray with Ammonium polysulphide about seven days, or even less, before picking.

Plate 2.—Cherries mummified by the Brown Rot fungus.

Growers requiring further information on this or other diseases are invited to communicate with the Plant Research Laboratory, Burnley.

Standard Herd Records

For Quarter ended 30th September, 1933

In the following is set out the records of all cows which completed a lactation during the quarter. The number is 768, of which 516 qualified for the certificate. The figure in brackets after the owner's name shows the number of entries that qualified for the certificate.

The amount of butter fat required for qualification varies according to the age of the animal (up to 5 years a at time of calving) the standards being as follow:—

Junior 2 year old (under 2½ years at time of calving)	230 lb. butter fat.
Senior 2 year old (between 2½ and 3 years at time of calving)	250 lb. butter fat.
Junior 3 year old (between 3 and 3½ years at time of calving)	270 lb. butter fat.
Senior 3 year old (between 3½ and 4 years at time of calving)	290 lb. butter fat.
Junior 4 year old (between 4 and 4½ years at time of calving)	310 lb. butter fat.
Senior 4 year old (between 4½ and 5 years at time of calving)	330 lb. butter fat.
Mature cow 5 years and over	350 lb. butter fat.

(Except where otherwise stated, the period of Test was 273 days.)

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
A. Allan, Tynong, Jersey (0).										
Burnside Melody ..	16937	25.10.32	N.O.C.	5,918	4·88	288·61	350	Mature	303, 286, 333, 346	Molly's Twylish of Banyule
Allan, F. de V., Toora, Jersey (2).										
Brucevale Island Madeira ..	33122	15.10.32	10	7,013	5·53	387·93	290	Sr. 3	329 ..	Masterpiece of Brucevale
Wompini Happy Bells ..	Vol. 20	11.11.32	8	5,594	4·86	272·05	230	Jr. 2	.. ..	Wompini Metal Master
Allwood, A., Stanhope, Freisian (2).										
Tarrangower Countess Helen	App. 4, Vol. 10	1.10.32	..	13,928	3·34	465·83	350	Mature	451, 518 ..	Strathardle Count Abbekerk 779
*Tarrangower Helen Oak ..	App. 3, Vol. 12	12.12.32	..	8,475	3·05	258·90	250	Sr. 2	368 ..	Greenvale Ebony Oak
Alston, N. B., Romsey, Jersey (2).										
Aberdour Romany Rose ..	26376	28.9.32	11½	7,022	6·31	443·35	350	Mature	391, 412, 434, 477	Lord 2nd of Brucevale
Rosyth Lady Beauty ..	32872	4.10.32	N.O.C.	6,335	4·86	308·01	310	Jr. 4	231, 285 ..	Lord 2nd of Brucevale
Rosyth Tulip	21083	11.10.32	18½	9,555	5·22	499·07	350	Mature	440, 450, 468, 477	Rosyth Hero
Armstrong, W. J., Somerville, Jersey (1).										
Glenone Melba	C.R.	6.10.32	..	3,845	5·61	215·56	230	Jr. 2	.. ..	Glenone Airman
Glenone Queenie	32891	13.10.32	..	4,883	4·63	225·91	270	Jr. 3	243 ..	Glenone Prince
†Glenone Peerless ..	C.R.	22.10.32	..	5,610	5·37	301·17	230	Jr. 2	.. ..	Banyule Airpoise
Atherton, W. H., Murraydale, Jersey (12).										
Tiny 3rd of Beverley ..	21097	27.9.32	13	9,602	5·22	501·06	350	Mature	282, 434, 262, 467, 453	Rosella's Lad of King's Vale
Beverley Mythic 4th ..	36818	28.9.32	18	4,881	5·71	278·75	230	Jr. 2	.. ..	Beverley Remon
Mythic of Beverley ..	18608	11.10.32	23	8,919	5·68	506·42	350	Mature	330, 361, 301, 521, 529, 426	Rosella's Lad of King Vale
Beverley Tiny Lass 2nd ..	28394	12.10.32	14½	7,340	4·88	358·55	310	Jr. 4	255 ..	Beverley Imperial
Beverley Cream Lassie 3rd ..	32895	16.10.32	15½	6,207	5·23	324·39	250	Sr. 2	235 ..	Banyule Remon
Beverley Cream Lassie 4th	32896	18.10.32	14	5,544	5·64	312·62	250	Sr. 2	265 ..	Rosella's Lad of King's Vale
Beverley Tiny 6th ..	32901	22.10.32	14½	6,510	5·66	368·43	230	Jr. 2	257 ..	Banyule Remon
Beverley Cream Lassie 5th ..	C.R.	25.10.32	17	5,807	5·38	312·64	230	Jr. 2	.. ..	Banyule Remon
Beverley Wattle Blossom ..	24219	28.10.32	24½	11,055	5·17	571·40	350	Mature	320, 452, 459	Rosella's Lad of King's Vale
Beverley Rosella 3rd ..	Vol. 20	3.11.32	14	5,351	5·40	289·12	270	Jr. 3	.. ..	Banyule Remon
Beverley Tiny's Lass ..	24218	5.11.32	16½	7,637	5·61	428·39	350	Mature	328, 402, 379, 465	Rosella's Lad of King's Vale
Beverley Wattle Blossom 2nd	C.R.	24.11.32	17½	6,879	5·73	394·29	230	Jr. 2	.. ..	Banyule Remon
Atkinson, W. K., Swan Hill, Dairy Shorthorn (7).										
Willow Park Camelia 3rd ..	Vol. 1, D.S.H.B.	28.9.32	30½	12,737	4·23	538·37	350	Mature	307, 436, 422	Willow Park Design
Willow Park Duchess 9th ..	Vol. 1, D.S.H.B.	30.9.32	23½	11,427	4·09	466·86	350	Mature	291, 340, 358	Reflector of Willow Park

* 210 days in test. † 240 days in test, herd withdrawn.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Atkinson, W. K., Swan Hill—*continued.*										
Willow Park Countess 3rd ..	Vol. 1, D.S.H.B.	16.10.32	22½	10,428	4·20	438·48	350	Mature	310, 397, 473, 467	Willow Park Reliance
Willow Park Countess 4th ..	Vol. 1, D.S.H.B.	27.10.32	6	9,699	3·91	379·63	350	Mature	283, 364, 399	Revenue of Willow Park
Willow Park Queenie 15th	Vol. 1, D.S.H.B.	27.10.32	26½	9,681	4·66	450·93	350	Mature	362, 387, 435	Willow Park Reliance
Willow Park Countess 8th ..	Vol. 1, D.S.H.B.	30.10.32	23	10,049	4·08	410·49	270	Jr. 3	260 ..	Willow Park Eminent
Willow Park Camelia 5th ..	Vol. 1, D.S.H.B.	13.11.32	16½	9,233	3·86	356·29	270	Jr. 3	278 ..	Havelock of Darbalara
Austin, Frank, Lara, Jersey (1).										
Avalon Nobles Duchess ..	32908	14.10.32	21½	7,452	5·47	407·56	270	Jr. 3	.. ..	Noble of Avalon
Axford, W. H., Camperdown, Jersey (13).										
Leura Countess 4th ..	Vol. 20	28.9.32	11	5,516	6·12	337·46	230	Jr. 2	.. ..	Curiosity's King of Comely Banks
Leura May 5th	38863	29.9.32	16	6,932	5·27	365·19	290	Sr. 3	.. ..	Curiosity's King of Comely Banks
Leura Monitress	24237	29.9.32	14	8,067	4·76	384·20	350	Mature	348 ..	Grant of Melrose
Leura Silverbelle 7th ..	36845	1.10.32	15	6,137	5·85	358·99	270	Jr. 3	310 ..	Admiral of Leura
Leura Annette 2nd ..	25234	2.10.32	22	7,536	5·37	404·38	350	Mature	309 ..	Monitor of Leura
Leura Beauty 3rd ..	24230	8.10.32	17	7,970	5·63	449·01	350	Mature	323, 377, 450	Grant of Melrose
Leura Patricia 7th ..	36843	9.10.32	8	4,332	6·31	273·26	270	Jr. 3	295 ..	Admiral of Leura
Leura May 7th	36840	11.10.32	26	8,490	5·83	495·13	270	Jr. 3	444 ..	Curiosity's King of Comely Banks
Leura Lady Elector 5th ..	28861	13.10.32	12	5,421	5·48	297·05	310	Jr. 4	.. ..	Admiral of Leura
Leura Boronia 2nd ..	28857	15.10.32	18	7,271	5·15	374·21	310	Jr. 4	.. ..	Curiosity's King of Comely Banks
Leura Carmen	25237	15.10.32	9	7,217	5·55	400·23	350	Mature	291, 350 ..	Grant of Melrose
Leura Silverbell 6th ..	28867	15.10.32	15	5,432	5·92	321·80	310	Jr. 4	.. ..	Admiral of Leura
Leura Monitress 2nd ..	28864	17.10.32	15½	6,288	6·13	385·46	310	Jr. 4	377 ..	Curiosity's King of Comely Banks
Leura Beauty 6th ..	32910	25.10.32	15½	6,332	5·77	365·19	290	Sr. 3	.. ..	Grant of Melrose
Ballarat Orphanage, Ballarat, Jersey (8).										
Tavistock Mystery ..	23052	30.9.32	20½	8,971	5·87	526·68	350	Mature	361, 416, 359	Mystery's Twylish of Tavistock
Orphanage V.C. Molly ..	36860	7.10.32	11½	8,091	5·47	442·85	270	Jr. 3	367 ..	Wompini V.C.
Trawalla Clara 11th ..	Vol. 20	22.10.32	16	6,039	5·43	328·15	230	Jr. 2	.. ..	Kyora Substitute
Orphanage Duke's Mirthmaker	32929	15.11.32	4	6,521	5·50	358·52	310	Jr. 4	292, 399 ..	Audrey's Allan of Tavistock
*Tavistock Audrey Molly 2nd	22966	21.11.32	4	7,239	5·66	409·46	350	Mature	237, 344, 295, 416	Audrey's Prince of Banyule
Orphanage Allan's Pearl ..	32927	30.11.32	7	5,338	5·53	295·06	310	Jr. 4	241, 374 ..	Audrey's Allan of Tavistock
Orphanage V.C. Quicksand	36861	8.12.32	20	7,281	5·15	374·79	270	Jr. 3	304 ..	Wompini V.C.
Orphanage Lady	25256	9.12.32	21	7,727	5·76	444·81	350	Mature	260, 328, 431	Brilliant Lad of Tavistock
Orphanage Starbright Zaffarine	32932	10.12.32	13½	5,951	5·06	300·98	310	Jr. 4	291, 338 ..	Staghorn Northern King
Barber, H. P., Somerville, Jersey (1).										
Somerville Northern Maid..	25960	3.12.32	16	7,203	5·68	409·11	350	Mature	380, 402 ..	Repulse of Somerville
Barrett, J. W., Trafalgar, Ayrshire (0).										
†Fairlawn Pride	14323	5.10.32	4	6,390	4·37	279·12	350	Mature	285, 187 ..	Wylie of Oakbank
‡Fairlawn Veronica ..	14325	9.10.32	4	6,270	4·05	254·22	350	Mature	234, 263 ..	Wylie of Oakbank
Glenfalloch Verna ..	C.R.	4.12.32	8	3,663	4·29	156·96	230	Jr. 2	.. ..	Oakbank Bard
Bassett-Smith, C., Kyabram, Red Poll (2).										
Victoria Cutty Spark ..	1756B	30.9.32	22½	9,717	3·85	373·69	350	Mature	401, 393, 333, 315	Victoria Volcano
Temperley Air Plane ..	..	12.11.32	10	5,537	5·06	279·92	230	Jr. 2	.. ..	Corriedale Royal Favourite
Batten, H. J., Panmure, Jersey (1).										
Mount Warrnambool Floss	32954	20.10.32	17½	6,123	5·56	340·51	250	Sr. 2	.. ..	Waverley Lass 3rds Viscount of Melrose
Belfield, G. H., Coleraine, Jersey (0).										
§Wootong Vale Duke's Variety	28440	8.11.32	N.O.C.	4,170	5·55	231·60	290	Sr. 3	260, 311 ..	Wootong Vale Gold Duke
§Toolang Princess ..	28513	20.11.32	N.O.C.	4,260	5·28	224·73	310	Jr. 4	.. ..	Clover Flat Lassie Beau 3rd
§Wootong Vale Golden Charm	36893	6.12.32	N.O.C.	4,020	5·57	224·04	250	Sr. 2	315 ..	Wootong Vale Gold Duke
Bidgood, F., Staghorn Flat, Jersey (5).										
Staghorn Master's Madeira	22984	15.10.32	22½	8,705	5·57	484·80	350	Mature	294, 431, 490, 459	Werribee Northern Masterpiece
Staghorn Master's Fancy 2nd	28452	17.10.32	23	8,913	6·29	560·23	350	Mature	454, 555, 542	Werribee Northern Masterpiece
Staghorn Master's Madeline	C.R.	21.10.32	20½	6,602	5·63	371·65	230	Jr. 2	.. ..	Werribee Northern Masterpiece
Staghorn Twylish Fairy ..	C.R.	14.11.32	18½	5,237	5·90	309·03	230	Jr. 2	.. ..	Staghorn Clementine's Twylish
Staghorn Master's Cello ..	25763	7.12.32	25½	8,741	5·85	511·45	350	Mature	293, 442 ..	Werribee Northern Masterpiece

* 249 days in test. † 240 days in test. ‡ 210 days in test. § 150 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Black, Mrs. A. J., Noorat, Jersey (1).										
Noorat Freda	32986	2.11.32	12 &	6,450	5·32	342·92	270	Jr. 3	266 ..	Cellist of Warenda
Black, I. S., Mount Noorat, Ayrshire (3).										
Mount Noorat Boronia ..	20554	5.10.32	14½	8,927	3·88	346·80	310	Jr. 4	275, 363 ..	Scottish Fame of Gowrie Park
Mount Noorat Marigold ..	18648	8.10.32	14½	9,062	3·81	345·23	330	Sr. 4	289, 361 ..	Scottish Fame of Gowrie Park
Sparrovale Georgina ..	16658	28.11.32	20	9,312	4·31	401·77	350	Mature	404, 435 ..	Scottish Fame of Gowrie Park
Bott, J. and N., Yarrawonga, Red Poll (1).										
*Naranghi Rosette ..	2590D	1.10.32	4	7,020	3·80	267·06	350	Mature	.. ..	Woodburn Elgin
Blackwood Dittum ..	2143A	21.10.32	27½	9,926	4·69	465·72	350	Mature	.. ..	Bellum Victor
Flowing Vale Lady Victoria	1786C	3.11.32	N.O.C.	7,482	4·61	345·25	350	Mature	.. ..	Bellum Victor
Box, Dr., Noojee, Jersey, (0).										
†Tooronga Defender's Queen	36940	2.10.32	4	3,520	5·67	199·41	230	Jr. 2	.. ..	Tooronga Mercede's King
†Tooronga Beauty ..	36939	11.10.32	4	2,850	5·82	165·85	230	Jr. 2	.. ..	Tooronga Mercede's King
‡Tooronga Laura ..	C.R.	9.12.32	4	2,105	5·04	106·17	230	Jr. 2	.. ..	Toronga Mercede's King
§Tooronga Twylish Queen ..	33011	12.12.32	4	4,155	4·61	191·41	270	Jr. 3	144 ..	Tooronga Mercede's King
Box, Dr., Whittlesea, Jersey (1).										
†Queen of Avalon ..	12867	26.10.32	4	4,822	5·90	284·30	350	Mature	214, 306, 329	Maiden's Defender of Koorawatha
Tooronga Princess Jessie ..	28481	15.11.32	13	6,117	6·87	419·96	350	Mature	304, 354 ..	Sunset of Melrose
Broad, A. A., Sutton Grange, Jersey (6).										
Grangelea Roseleaf 2nd ..	26394	28.9.32	19½	8,687	5·47	475·59	330	Sr. 4	305, 384, 455	Mistletoe's 2nd V.C. of Tarnpirr
Daffodil of Grangelea ..	18648	28.9.32	23½	9,489	5·79	549·12	350	Mature	433, 500, 500, 501, 517	Mistletoe's 2nd V.C. of Tarnpirr
Grangelea Daisy Belle ..	33034	30.9.32	16	6,653	5·02	334·08	250	Sr. 2	247 ...	Banyule Macon
Grangelea Primrose 2nd ..	26392	11.10.32	21	7,907	5·50	434·73	330	Sr. 4	318, 401, 429	Mistletoe's 2nd V.C. of Tarnpirr
Grangelea Dawn	33037	20.10.32	16	6,257	6·20	387·73	250	Sr. 2	307 ..	Banyule Macon
Glenoshea Velveteen ..	28494	28.10.32	23½	8,063	4·88	393·42	290	Sr. 3	245, 347 ..	Burnside Mooltan
Brock, R. L., Trafalgar, Jersey (2).										
†Strathview Silverthrush ..	36972	3.11.32	..	5,310	5·50	291·99	270	Jr. 3	333 ..	Pat of Belgonia
Wyeete Queenie	C.R.	14.12.32	..	4,980	5·09	253·29	250	Sr. 2	.. ..	Eminent's Prince of Clarendon Eyre
Brunning, T. W., Somerville, Jersey (0).										
Letetia 7th of St. Johns ..	28515	17.11.32	19	6,657	4·89	325·81	350	Mature	.. ..	Valda's Lad of Comely Banks
Buchanan, J. M., Flinders, Ayrshire (4).										
Gleneira Iodine	C.R.	27.9.32	10	6,003	4·19	251·71	230	Jr. 2	.. ..	Gleneira Napier
†Gleneira Acute	18016	27.9.32	4	7,530	4·09	307·68	350	Mature	315, 330 ..	Brilliant's Banner of Oakbank
Gleneira Lapstone ..	22837	28.9.32	4½	6,956	3·74	260·00	250	Sr. 2	223 ..	Gleneira Knight
Gleneira Chic	20124	1.10.32	8	8,370	4·98	416·09	350	Mature	371, 350 ..	Gleneira Briton
Gleneira Decoy	20126	3.10.32	4	6,792	4·15	281·59	350	Mature	304, 163 ..	Algie of Oakbank
†Gleneira Hawthorn ..	20131	10.10.32	4	5,820	4·15	241·29	350	Mature	271, 290 ..	Algie of Oakbank
Gleneira Frown	21520	13.10.32	6½	7,043	4·46	313·90	310	Jr. 4	314, 316 ..	Gleneira Desmond
Butcher, F. T., Murraydale, Red Poll (1).										
Maryville Eve	2506C	30.11.32	20½	10,175	4·85	493·03	310	Jr. 4	355, 362 ..	Victoria King Bird
Caldwell, J., Glen Alvie, Jersey (0).										
Round Hill Treasure's Princess	23018	3.10.32	6½	4,505	5·36	241·67	350	Mature	292 ..	Retford Deer's Noble
Round Hill Rose ..	33068	9.10.32	10	4,215	5·47	230·63	270	Jr. 3	235 ..	Cosma's Prince
Cameron, D., and Sons, Valencia, Jersey (2).										
Studleigh Harebell 6th ..	33076	28.9.32	19½	5,886	6·49	382·13	270	Jr. 3	381 ..	Studleigh's Masterpiece
Studleigh Harebell 10th ..	Vol. XX.	6.10.32	13	5,391	6·61	356·40	230	Jr. 2	.. ..	Studleigh's Masterpiece
Chadderton, J. E., Hamilton, Jersey (2).										
Glen Leigh Lassie ..	33097	1.10.32	18	7,109	5.73	407·30	270	Jr. 3	316 ..	Gadabout of Danton
Glen Leigh Foxglove ..	24287	22.11.32	16½	7,220	5·98	431·91	350	Mature	308, 402, 433	Gadabout of Danton
Chester, E. L., Mt. Scobie, Jersey (1).										
Radford Joybell	37052	5.10.32	6½	4,656	5·53	257·63	230	Jr. 2	.. ..	Ballara Golden Lad
Chirnside, R. M., Whittlesea, Jersey (10).										
Mornmoot Madge ..	C.R.	22.10.32	9	5,972	6·75	403·25	230	Jr. 2	.. ..	Werribee Prince Madeira
Mornmoot Myth 2nd ..	C.R.	24.10.32	N.O.C.	7,983	4·89	390·72	230	Jr. 2	.. ..	Werribee Prince Madeira
Werribee Stella Princess ..	37073	27.10.32	15	9,747	5·50	536·37	270	Jr. 3	440 ..	Werribee Butter King
Carranballac Bluebell's Europa	C.R.	9.11.32	17	6,320	5·76	364·08	230	Jr. 2	.. ..	Carranballac Mascott's Sir Fancy

* 258 days in test. † 240 days in test. ‡ 180 days in test. § 210 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Chirnside, R. M., Whittlesea—*continued.*										
Mornmoot Mannette 2nd ..	C.R.	15.11.32	10½	5,691	5·63	320·56	230	Jr. 2	.. ..	Mornmoot Starbright King
Mornmoot Model ..	33137	16.11.32	17	6,917	6·37	440·50	270	Jr. 3	394 ..	Choirmaster of Banyule
Air Maid of the Falls ..	21585	24.11.32	28	11,777	4·62	543·95	350	Mature	306, 451, 545, 543	Air Pilot of Banyule
Mornmoot Melody ..	28558	15.12.32	27½	9,657	6·61	638·54	310	Jr. 4	425, 600 ..	Clovelly Sun King
Melrose Clementine ..	28551	17.12.32	27	9,425	5·39	508·24	290	Sr. 3	329, 495 ..	Masterpiece (imp.)
Mornmoot Fancy Madeira ..	37059	27.12.32	16	5,072	5·51	279·63	230	Jr. 2	.. ..	Werribee Prince Madeira
Chitty, C., Kongwak, Jersey (2).										
*Ewelme Girl	15467	24.10.32	4	6,224	5·29	328·98	350	Mature	499, 572, 630, 512	Werribee Wyandotte's Fancy
Ewelme Golden Dawn ..	28563	25.10.32	19	7,020	5·29	371·22	330	Sr. 4	340, 380, 380	Northern Master of Glen Iris
Ewelme Northern Girl ..	C.R.	15.11.32	7	4,469	5·47	244·19	230	Jr. 2	.. ..	Northern Master of Glen Iris
Christian, N. C. (Mrs.), Mortlake, Jersey (2).										
Staghorn's Master's Fancy 3rd	32975	1.10.32	19½	7,160	6·20	443·58	270	Jr. 3	367 ..	Staghorn Northlark's Master piece
Malwand Daffodil 2nd ..	C.R.	2.10.32	14	6,297	5·35	336·96	230	Jr. 2	.. ..	Duke of Belgonia
Clarke, A. B., Glenormiston South, Jersey (1).										
Denniston Blue Bird ..	33171	15.10.32	16	6,878	5·31	365·28	270	Jr. 3	295 ..	Cellist of Warenda
Clark, F. W., Toora, Jersey (1).										
Hazel Grange Mistress ..	C.R.	7.11.32	9	6,075	5·86	356·22	230	Jr. 2	.. ..	Master Clement of Glen Iris
Clark, P. W., Whittlesea, Jersey (1).										
Coodardy Gloria	33167	30.10.32	16½	6,821	6·48	441·82	310	Jr. 4	349, 451 ..	Laane Lad Twylish
Clyne, J. (Estate late), Upper Maffra West, Jersey (10).										
Paisley Florence	C.R.	30.9.32	11½	4,250	6·59	280·03	230	Jr. 2	.. ..	Werribee Master Key
Bell Vue Betsy	32942	5.10.32	17	8,087	4·62	373·92	290	Sr. 3	.. ..	Goldfinder (imp.)
Jersey Vale Honeysuckle ..	25313	11.10.32	13	6,912	4·76	329·29	350	Mature	297, 331, 357	Princess 2nd's Twylish of Grangelea
Jersey Vale Cowslip ..	25311	21.10.32	19	9,432	4·49	423·75	350	Mature	332, 383, 455	Princess 2nd's Twylish of Grangelea
Paisley Bonnie	C.R.	21.10.32	17½	8,768	4·64	407·11	290	Sr. 3	280, 341 ..	Werribee Masterkey
Forty Winks of Paisley ..	17721	28.10.32	15	6,371	4·92	313·76	350	Mature	317, 344, 403	Double Twylish of Elouera
Paisley Laura	C.R.	13.11.32	18½	7,031	5·16	363·11	270	Jr. 3	300 ..	Paisley Monopole
Paisley Caroline	25322	23.11.32	18	6,743	5·66	381·36	350	Mature	299, 315, 392	Monopole of Belgonia
Paisley Miss Petal ..	33177	10.12.32	25½	7,929	5·03	398·78	310	Jr. 4	268, 374 ..	Werribee Masterkey
Paisley Foxglove ..	37108	13.12.32	16	5,964	6·24	372·45	310	Jr. 4	301, 374 ..	Paisley Boy
Swansea Fuchsia 3rd ..	24299	13.12.32	20	7,455	4·78	356·15	350	Mature	316, 399, 386, 390	Prince of Belgonia
Belle Vue Original ..	32944	17.12.32	20½	7,013	5·81	407·71	350	Mature	.. ..	Goldfinder (imp.)
Jersey Vale Verbena ..	25321	17.12.32	18½	7,005	4·97	348·44	350	Mature	276, 365, 360	Princess 2nd's Twylish of Grangelea
Aveley Silvermine ..	22954	21.12.32	14	5,786	5·32	308·06	350	Mature	346, 417, 522, 537, 561	Werribee Fancy's Butter King
Cockbill Bros., Bacchus Marsh, Ayrshire (5).										
Warrook Frivol	20809	28.10.32	15	8,934	4·57	408·44	310	Jr. 4	270, 227 ..	Warrook Fashion's Optimist
Fulham Verose	13339	31.10.32	N.O.C.	10,352	4·03	416·72	350	Mature	396, 272, 167, 306, 486, 417	His Majesty of Wethersdane
Fulham Bona	20018	15.11.32	19½	8,798	4·04	355·09	310	Jr. 4	327, 337 ..	The Laird of Sparrovale
Hollywood Poppy ..	C.R.	16.12.32	15½	7,104	4·45	316·36	230	Jr. 2	.. ..	Hollywood Pop
Fulham Verona	22751	18.12.32	18½	7,817	4·94	385·92	250	Sr. 2	265 ..	The Laird of Sparrovale
Cockbill Bros., Rockbank, Ayrshire (0).										
Fulham Tasma	21431	2.10.32	11	5,778	4·29	247·83	270	Jr. 3	229 ..	Fulham Future
†Warrook Sunshine ..	22189	19.10.32	4	4,470	4·69	209·64	250	Sr. 2	178 ..	Warrook Fashion's Optimist
‡Fulham Tilly	22749	5.11.32	4	4,065	4·65	189·12	230	Jr. 2	.. ..	The Laird of Sparrovale
Fulham Model 2nd ..	22748	19.11.32	6	4,871	4·38	213·38	230	Jr. 2	.. ..	Fulham Victory
Fulham Sheen	C.R.	21.11.32	15	4,782	3·99	190·96	230	Jr. 2	.. ..	The Laird of Sparrovale
Fulham Constance ..	20020	14.12.32	15½	4,812	4·50	216·59	310	Jr. 4	233, 275 ..	The Laird of Sparrovale
Fulham Agnes	22743	16.12.32	17	4,484	4·10	184·01	230	Jr. 2	.. ..	The Laird of Sparrovale
§Fulham Goodnight ..	22747	24.12.32	4	2,899	4·60	133·43	230	Jr. 2	.. ..	The Laird of Sparrovale
Cockbill Bros., Tongala, Ayrshire (0).										
Fulham Barbara ..	23742	17.10.32	10	5,468	4·12	225·15	230	Jr. 2	.. ..	Fulham Famous
Fulham Ladylike ..	23746	19.10.32	5½	4,676	4·15	194·06	230	Jr. 2	.. ..	Fulham Victory
†Fulham Lady	23745	23.10.32	4	4,335	3·77	163·28	230	Jr. 2	.. ..	Fulham Famous
‖Fulham May	20025	25.11.32	4	4,380	4·45	195·03	310	Jr. 4	199, 284 ..	Fulham Future
Cook, D. E., Loch, Jersey (1).										
Wattle Vale Pride's Deer	28587	14.10.32	11½	5,886	5·62	330·51	310	Jr. 4	325 ..	Retford Deer's Noble
‡Wattle Vale Charm ..	C.R.	28.10.32	4	3,525	5·59	196·98	230	Jr. 2	.. ..	Retford Deer's Noble
Wattle Vale Sweet Olive ..	33200	7.11.32	7½	4,863	5·35	260·15	270	Jr. 3	.. ..	Retford Deer's Noble

* 249 days in test. † 180 days in test. ‡ 240 days in test. § 251 days in test. ‖ 210 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Coombes, T. A. P., Tongala, Jersey (2).										
*Ivinghoe Buttercup 5th	C.R.	12.10.32	4	3,788	5·38	203·91	230	Jr. 2	.. ..	Belgonia Air Prince
Swansea My Luck	28598	14.10.32	7	7,709	4·81	375·25	350	Mature	369, 415, 437	Prince of Belgonia
Beverley Rarity 5th	32899	29.10.32	..	5,534	6·05	334·83	270	Jr. 3	303 ..	Rosella's Lad of King's Vale
Beverley Cream Lassie	25730	28.11.32	4	4,560	5·05	230·16	350	Mature	219, 264, 315	Rosella's Lad of King's Vale
Cooper, H. A., Trafalgar, Jersey (3).										
†Glenloch Rance	26313	12.10.32	N.O.C.	6,075	5·56	337·74	330	Sr. 4	251, 349, 348	Rajah of Springhurst
*Glenloch Chorus Maid	24311	26.10.32	N.O.C.	8,160	5·93	484·17	350	Mature	328, 502, 436	Milkmaid's Chief of Banyule
†Glenloch Mabel	24312	28.10.32	N.O.C.	5,805	6·49	376·56	350	Mature	240, 314, 411	Concentration of Banyule
Cox, A., Mt. Scoble, Jersey (11).										
Tavistock Marie's Pearl	C.R.	27.9.32	12½	4,493	6·43	288·71	230	Jr. 2	.. ..	Fourshells Marie's Airiel
Tavistock Honesty 2nd	28607	27.9.32	17¼	7,667	6·33	485·07	350	Mature	312, 437 ..	Audrey's Prince of Banyule
Tavistock May Queen	33222	25.10.32	15	6,502	6·83	444·38	270	Jr. 3	269 ..	Audrey's Prince of Banyule
Tavistock May	28611	26.10.32	13	6,789	6·19	420·38	310	Jr. 4	252, 341, 345	Audrey's Prince of Banyule
Tavistock Audrey's Lassie	37146	4.11.32	11½	5,982	5·06	302·62	270	Jr. 3	300 ..	Audrey's Prince of Banyule
Tavistock Rose	28614	7.11.32	15	6,764	5·98	404·37	330	Sr. 4	271, 369, 425	Audrey's Prince of Banyule
Tavistock Graceful Duchess	33219	9.11.32	5	5,717	5·37	306·78	310	Jr. 4	242, 309 ..	Cloverlea Boy
Tavistock Honesty 3rd	37148	16.11.32	19½	7,899	5·73	452·91	270	Jr. 3	311 ..	Audrey's Prince of Banyule
Tavistock Bonnie	28605	17.11.32	14	6,162	4·66	287·05	330	Sr. 4	279, 339 ..	Audrey's Prince of Banyule
‡Tavistock Pattibelle	33224	23.11.32	4	5,895	5·50	324·27	310	Jr. 4	246, 300 ..	Duke of Pendennis
Tavistock Charm	37147	14.12.32	9½	5,484	5·34	293·02	270	Jr. 3	308 ..	Moorella Ranger
Tavistock Merle	37150	24.12.32	15	5,693	6·14	349·64	270	Jr. 3	313 ..	Moorella Ranger
Tavistock Clarionette	18457	27.12.32	17	6,488	5·93	384·85	350	Mature	396, 503, 416	Audrey's Prince of Banyule
Crawford, Mrs. E., Traralgon, Jersey (3).										
Warenda La Charm 4th	25560	12.10.32	N.O.C.	5,483	5·71	312·81	350	Mature	323, 396 ..	Kewpie of Warenda
Xavier Handsome Girl	33241	22.10.32	23½	9,717	5·38	522·61	310	Jr. 4	398, 513 ..	Mozart of Warenda
Balnief Golden Petal	C.R.	28.10.32	11	4,839	6·08	293·90	230	Jr. 2	.. ..	Coolooli Jersey King
Balcairn Rare Rose	C.R.	5.11.32	13	5,277	5·97	315·10	230	Jr. 2	.. ..	Balcairn Master Musician
Davies, J. W., Coalville, Jersey (0).										
Xavier Coalville Patricia	C.R.	1.10.32	5½	4,617	4·97	229·50	230	Jr. 2	.. ..	Barrowby Sunstar
Xavier Coalville Teresa	C.R.	4.11.32	4	3,192	5·21	166·34	230	Jr. 2	.. ..	Grangelea David
Day, E., Penshurst, Jersey (1).										
View Point Velvet	C.R.	29.10.32	16	5,702	5·62	320·70	230	Jr. 2	.. ..	View Point Noble
Dee, J., North Clyde, Jersey (2).										
Aveley Melista	25410	14.11.32	16	7,791	5·01	390·02	350	Mature	301, 383 ..	Choirmaster of Banyule
Aveley Norma 3rd	25411	2.12.32	18½	7,352	5·19	381·66	350	Mature	293, 358 ..	Economist of Aveley
De La Rue, N. C., Weering, Jersey (2).										
Lucerne Vale Battle's Trixie 2nd	25346	10.10.32	N.O.C.	5,130	6·69	343·14	310	Jr. 4	306, 273 ..	Somerville Battle
Lucerne Vale Masterpiece's Trixie	C.R.	26.11.32	10	4,491	5·45	244·55	230	Jr. 2	.. ..	Werribee Fancy Masterpiece
Department of Agriculture, Werribee, Friesian (10).										
Victoria Songbelle	1708	24.10.32	28	17,484	3·29	575·87	350	Mature	339, 362, 549, 537, 571	Victoria Songboy
Victoria Joyous Piebe	3259	25.10.32	23	13,528	3·70	500·38	330	Sr. 4	381, 374 ..	Victoria Joyous Mercedes
Victoria Ilkedes	3763	12.11.32	22½	9,939	3·83	380·81	230	Jr. 2	.. ..	Victoria Joyous Mercedes
Victoria War Oak	3770	17.11.32	21	9,198	3·49	320·83	230	Jr. 2	.. ..	Domino Oakdale
Victoria Songstress	3768	19.11.32	20½	10,767	3·22	346·78	270	Jr. 3	.. ..	Victoria Joyous Mercedes
Victoria Eminence	3762	28.11.32	27½	11,174	3·57	399·31	230	Jr. 2	.. ..	Victoria Joyous Mercedes
Victoria Joy Top	3764	7.12.32	26	9,251	3·90	360·61	230	Jr. 2	.. ..	Victoria Joyous Mercedes
Victoria Soprano	3265	9.12.32	36½	13,341	3·40	454·15	310	Jr. 4	372 ..	Victoria Topnote
Victoria Quilt	3767	13.12.32	22½	11,207	4·28	479·84	290	Sr. 3	328 ..	Victoria Topnote
Victoria Top Patch	2634	19.12.32	4	10,533	3·81	401·17	350	Mature	202, 318, 398, 459	Victoria Topnote
Department of Agriculture, Werribee, Red Poll (12).										
Victoria Twice Royal	3041A	27.9.32	5	4,163	4·87	202·64	230	Jr. 2	.. ..	Victoria Royal Ringer
Victoria Picquette	1668A	28.9.32	19½	9,918	4·11	407·47	350	Mature	327, 384, 416, 402	Belligerent
Victoria Barcarolle	2303A	11.10.32	10	5,102	5·34	272·39	350	Mature	284, 328 ..	Victoria Air Marshall
Victoria Wild Rose	3042A	27.10.32	11	5,513	4·88	268·88	270	Jr. 3	228 ..	Vice Regal
Victoria Plumage	3029A	28.10.32	11½	5,354	5·09	272·42	250	Sr. 2	.. ..	Vice Regal
Victoria Rebel	2333A	4.11.32	13	8,973	4·76	426·89	330	Sr. 4	327, 310 ..	Vice Regal
Victoria Lady Velvet	2758	9.11.32	11	5,171	4·91	254·06	230	Jr. 2	.. ..	Earl of Beaconsfield
Victoria Asphodel	3008A	12.11.32	17½	7,122	4·14	294·96	230	Jr. 2	.. ..	Dominion Bright Belgian
Victoria Exhaust	3019A	19.11.32	12½	5,621	5·14	288·87	230	Jr. 2	.. ..	Vice Regal
Victoria Balmy Breeze	2302A	23.11.32	18	8,364	4·55	380·50	350	Mature	351, 343 ..	Air Marshall
Victoria Twice Bright	3040A	28.11.32	9	4,971	4·93	245·09	230	Jr. 2	.. ..	Dominion Bright Belgian
Victoria Pique	3038A	29.11.32	8½	4,758	4·52	215·25	230	Jr. 2	.. ..	Vice Regal

* 240 days in test, herd withdrawn. † 210 days in test, herd withdrawn. ‡ 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Department of Agriculture, Werribee—*continued.*										
Victoria Charm	3013A	2.12.32	13½	5,306	4·43	234·74	230	Jr. 2	.. ..	Earl of Beaconsfield
Victoria Amarylis ..	2301A	6.12.32	20	7,332	4·99	365·69	310	Jr. 4	256, 286 ..	Vice Regal
Victoria Lady Decree ..	3025A	7.12.32	16	5,993	4·69	281·30	230	Jr. 2	.. ..	Earl of Beaconsfield
Victoria War Ghost ..	2347A	18.12.32	31	11,009	4·57	503·20	350	Mature	372, 456, 442	Belligerent
Desmond, J. J., Rochester, Jersey (2).										
Preston Countess 2nd ..	25353	2.11.32	22	9,818	4·51	442·68	350	Mature	279, 347, 367, 400	Acacia King
Preston May Day ..	25356	19.12.32	25	7,068	5·99	423·35	350	Mature	312, 422, 444	Pretty King 2nd of Koorawatha
Dick, J., Swan Hill, Ayrshire (0).										
Muriel of Evergreen ..	11055	18.12.32	16	8,403	4·13	347·21	350	Mature	388, 403, 367	Happy Jack of Dudleigh
Dickenson Bros., Sebastopol, Friesian (3).										
Ashby Lulu	Vol. 12	19.10.32	17½	6,746	4·11	277·27	230	Jr. 2	.. ..	Bolobek Sampson
Ashby Primrose 3rd ..	Vol. 12	17.10.32	19	7,800	3·57	278·54	230	Jr. 2	.. ..	Bolobek Dominic
Ashby Queen Annette 2nd..	Vol. 12	25.10.32	16	6,565	4·48	294·05	230	Jr. 2	.. ..	Bolobek Dominic
Ashby Pauline 6th ..	Vol. 12	25.10.32	17	5,846	3·59	209·89	230	Jr. 2	.. ..	Bolobek Sampson
Ashby Queenie 5th ..	2093	25.10.32	20½	8,370	3·75	313·99	350	Mature	368, 428, 351	Ashby General Paul
Ashby Primrose 2nd ..	3312	9.11.32	13½	5,283	3·63	191·78	290	Sr. 3	204 ..	Ashby Dominic
Ashby Angy	Vol. 12	3.12.32	16	5,264	3·76	198·12	230	Jr. 2	.. ..	Bolobek Sampson
Ashby Princess Pauline ..	2091	6.12.32	15½	5,452	4·70	256·46	350	Mature	345, 365 ..	Ashby General Paul
Ashby Jule	Vol. 12	16.12.32	10½	4,850	3·72	180·52	230	Jr. 2	.. ..	Bolobek Sampson
Ashby Queen Annitte ..	2346	21.12.32	28½	8,021	3·74	300·29	350	Mature	387, 402, 397	Ashby General Paul
Dobson, R. J. M., Acheron, Jersey (1).										
Mundroola Lady Jennawarra	18690	18.11.32	24	7,826	5.32	416·41	350	Mature	356, 490, 422	Bosun of Meadowvale
Dookie Agricultural College, Dookie, Ayrshire (1).										
Dookie Sappho	23672	11.12.32	22½	8,243	5·13	422·70	270	Jr. 3	451 ..	Dookie Beau
Dowel, L. G., Jumbunna, Jersey (1).										
Woorayl Thrice Queen ..	28361	8.10.32	9½	5,453	6·50	354·64	310	Jr. 4	232, 276 ..	Butter Boy of Fairview
Callemondah Dainty ..	37243	20.11.32	9	3,558	5·55	197·33	250	Sr. 2	170 ..	Raheen Nap
Downie Bros., Longwarry South, Ayrshire (1).										
Glen View Bobbie 3rd ..	25024	9.10.32	10	5,739	4·25	243·63	230	Jr. 2	.. ..	Gowrie Park Standard Bearer
*Glen View Lady 2nd ..	23895	9.10.32	4	4,020	4·54	182·64	270	Jr. 3	202 ..	Gowrie Park Dairy Boy
*Gowrie Park Nessie ..	14444	21.10.32	4	5,715	4·34	247·83	350	Mature	179 ..	Bonny Blair of Gowrie Park
*Glen View Odette 4th ..	C.R.	21.10.32	4	3,075	4·65	142·92	230	Jr. 2	.. ..	Glen View Daisy's Master
Glen View Betty ..	21604	30.10.32	10	7,117	4·43	315·56	350	Mature	259 ..	Gold Coin of Fairfield Park
Glen View Topsy ..	21618	7.11.32	4	6,749	3·95	266·36	350	Mature	284 ..	Gold Coin of Fairfield Park
Glen View Betty 4th ..	C.R.	15.11.32	9	4,712	3·92	184·70	230	Jr. 2	.. ..	Gowrie Park Standard Bearer
†Glen View Odette ..	21616	23.11.32	4	5,790	4·37	252·99	350	Mature	164 ..	Gold Coin of Fairfield Park
Ducat, P. J., and Sons, Ardmona, Jersey (2).										
Airlie Duchess 4th ..	Vol. 20	24.10.32	10	4,218	6·11	257·68	290	Sr. 3	.. ..	Hedge of Banyule
Airlie Duchess	33312	28.10.32	16½	6,173	5·62	346·95	350	Mature	286, 334 ..	Twist of Banyule
Airlie Mermaid 3rd ..	Vol. 20	9.11.32	10½	5,678	5·85	332·31	270	Jr. 3	.. ..	Hedge of Banyule
Airlie Duchess 9th ..	C.R.	14.11.32	14½	4,574	5·11	233·74	230	Jr. 2	.. ..	Airlie Monitor
Dwyer, G., Balwyn, Jersey (2).										
Karalee Easter Daisy ..	37300	28.9.32	9½	3,602	6·40	230·45	230	Jr. 2	263 ..	Karalee Volunteer 4th
Karalee Linda	37302	3.10.32	15½	5,657	6·16	348·57	270	Jr. 3	406 ..	Karalee Duke
Edwards, T. J., Sale, Jersey (4).										
Fairholme Prince's Fairy ..	37316	2.10.32	19	7,457	5·90	439·82	250	Sr. 2	328 ..	Prince Rinda 6413
Merami Princess	37320	8.10.32	24	8,945	5·66	506·73	250	Sr. 2	338 ..	Royal Remus of Overlook
Rockburn Trissie ..	30957	6.11.32	28½	10,884	4·96	539·66	330	Sr. 4	264, 355, 430	Woodlupine Gay Boy
Sunny Brae Morocco ..	25363	27.11.32	24½	9,609	5·36	514·91	350	Mature	330, 339, 473	Rosemont Primrose 2nd's Noble
Emmett, W. H., Stanhope, Jersey (1).										
Coolwoola Montrose Pearl ..	24666	21.11.32	15	7,178	5·73	411·47	350	Mature	385 ..	Montrose Dancer of Glen Iris
Enders, N. H., Stanhope, Jersey (4).										
Rintoul View Rosemary ..	38214	1.10.32	18	7,188	6·13	440·64	230	Jr. 2	.. ..	Banyule Triplane
The Wattles Princess 2nd ..	33990	24.10.32	18½	7,212	6·52	470·14	250	Sr. 2	372 ..	The Wattles Northern Duke
Buttercup of Belgonia ..	21490	27.11.32	21	8,840	5·88	519·45	350	Mature	432, 515, 503, 546	Bright Twylish of Belgonia
The Wattles Pearl 2nd ..	33939	29.11.32	23	8333	5·52	490·49	270	Jr. 3	404 ..	The Wattles Myra's Lad
Esler, G., Tongala, Jersey (2).										
Maiwond Blossom ..	17426	3.10.32	8	7,665	4·49	344·23	350	Mature	271, 392, 330, 321, 338, 361	Jubilee Velvetlight
Maiwand Aster	28637	12.10.32	12	7,928	5·14	407·46	310	Jr. 4	349, 331 ..	Duke of Belgonia
Maiwand Holly	28690	26.11.32	19	7,647	4·96	379·57	310	Jr. 4	351, 351 ..	Duke of Belgonia

* 210 days in test. † 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Evans, A., Heywood, Jersey (2).										
Boronia Farm Dainty Lass	28693	28.9.32	11½	6,725	5·89	396·11	290	Sr. 3	287, 317 ..	Prince of Boronia Farm
Kelvin Brook Lotus ..	29547	28.11.32	14½	5,387	5·65	304·24	330	Sr. 4	322, 355 ..	Staghorn Lotus Cream's Masterpiece
Boronia Farm Rose ..	33330	2.12.32	12	5,777	5·60	323·23	270	Jr. 3	253 ..	Prince of Boronia Farm
Fairchild and Clutterbuck, Tinamba, Jersey (2).										
Vaucluse Kirsty 2nd ..	C.R.	15.11.32	9½	4,197	5·53	231·97	230	Jr. 2	.. ..	Somerville Concentration
Somerville Lettie 2nd ..	C.R.	25.11.32	11	5,222	6·22	324·77	250	Sr. 2	.. ..	Somerville Reputation
Findlay, G., Leithville, Jersey (7).										
Leven Brae Gay Peeress ..	33340	10.10.32	19	8,030	5·92	475·76	330	Sr. 4	248, 324, 243	Werribee Gay Piece
Leven Brae Gay Countess ..	Vol 20	11.10.32	18	9,822	5·41	531·38	330	Sr. 4	247, 342, 441	Werribee Gay Piece
Twylish Perree of Leven Brae	21276	23.10.32	24	9,423	5·23	493·17	350	Mature	229, 357, 483, 418 409, 472	Twylish's Fox of Colac
Leven Brae Gaiety ..	33339	30.10.32	18½	8,177	5·87	480·06	310	Jr. 4	320, 537 ..	Werribee Gay Piece
Leven Brae Gay Princess ..	C.R.	20.11.32	20½	7,712	5·39	416·03	310	Jr. 4	271, 279 ..	Werribee Gay Piece
Leven Brae Gay's Fancy ..	27368	21.11.32	22½	8,930	5·02	448·26	290	Sr. 3	278, 396 ..	Werribee Gay Piece
Leven Brae Gay Lady ..	28926	22.12.32	17½	8,141	4·91	399·95	350	Mature	272, 351, 428	Werribee Gay Piece
Findlay, T. R., Leitchville, Jersey (2).										
Leven Brae Queenie ..	33342	30.10.32	23½	9,905	6·49	643·05	310	Jr. 4	423, 553 ..	Werribee Gay Piece
Leven Brae Gay Peeress 2nd	33341	15.11.32	9½	6,606	6·17	407·37	330	Sr. 4	276, 366, 464	Werrebee Gay Piece
Fisken, A. C., Yendon, Dairy Shorthorn (0).										
Lal Lal Princess	Vol. 1 D.S.H.B.	6.12.32	13½	4,841	4·08	197·55	290	Sr. 3	169 ..	Morven Connaught Duke
Fixter, A., Boisdale, Guernsey (4).										
Avonview Princess ..	3313	13.10.32	9	6,258	5·51	344·64	270	Jr. 3	326 ..	Melbourne Sand Boy 6th
Fernlea Rosebud	2681	15.10.32	8	6,603	5·65	372·96	330	Sr. 4	285, 344, 386	Werribee Jessie's Boy
Avonview Lady	C.R.	20.10.32	9	5,087	4·87	247·82	230	Jr. 2	.. ..	Melbourne Sand Boy 6th
Fernlea Daffodil	2679	15.12.32	10	6,018	6·03	363·14	330	Sr. 4	290, 326, 347	Werribee Jessie's Boy
Fixter, Wm., Boisdale, Jersey (6).										
Studleigh Dianthus 4th ..	25288	8.10.32	15	7,983	5·31	423·97	330	Sr. 4	303, 311 ..	Werribee Madeira Starbright King
Olivedale Dianthus ..	34006	28.10.32	16	7,082	6·00	424·92	270	Jr. 3	261 ..	Studleigh Masterpiece
Olivedale Queenie ..	24352	16.11.32	11½	7,739	5·85	452·51	350	Mature	312, 309, 336, 346	Emporor Studleigh Masterpiece
Olivedale Pearl	C.R.	22.11.32	13½	5,897	5·66	333·63	230	Jr. 2	.. ..	Studleigh Masterpiece
Olivedale Duchess 2nd ..	C.R.	25.11.32	12	4,881	5·85	285·62	230	Jr. 2	.. ..	
Olivedale Stockings ..	37382	4.12.32	12	6,113	5·68	347·00	290	Sr. 3	298 ..	Studleigh Dandy
Foster Bros., Boisdale, Jersey (1).										
Dolly 4th of King's Vale ..	16583	25.11.32	13	6,609	5·22	344·85	350	Mature	312, 308, 373, 431, 427	Rosella's V.C. of King's Vale
Boisdale Madeira ..	28701	25.11.32	10½	5,410	5·60	302·89	310	Jr. 4	245, 285 ..	Handsome Boy 4th of Jerseyholm
Mogilla Check	17435	30.11.32	17	6,730	4·43	298·36	350	Mature	.. ..	Brighton Lady's King
Boisdale Brunette 2nd ..	28699	23.12.32	15	5,838	5·45	318·39	310	Jr. 4	242, 323 ..	Handsome Boy 4th of Jerseyholm
Fraser, G. A., Addington, Ayrshire (3).										
Craigieles Sylvia	17686	19.10.32	9½	7,502	4·69	351·80	330	Sr. 4	326, 259, 294	Petunia's Prince of Gleneira
Roxburgh Graceful 2nd ..	16597	3.11.32	6	6,180	4·26	263·09	350	Mature	299, 284, 330	Victory of the Oaks
Craigielea Laura	17684	17.11.32	16½	7,296	4·22	307·72	350	Mature	311, 318, 321	Petunia's Prince of Gleneira
Glengowrie Alberta ..	Vol. 26	12.12.32	20	5,613	4·28	240·13	230	Jr. 2	.. ..	Glengowrie Bold Baron
Glengowrie Ray	C.R.	12.12.32	25	7,155	4·15	296·89	230	Jr. 2	.. ..	Glengowrie Bold Baron
Glengowrie Beth ..	14764	19.12.32	N.O.C.	4,470	4·27	190·91	350	Mature	.. ..	Liberty of Lady Bank
Freestone, P. A., Murchison, Jersey (2).										
Romany Lass of Belgonia ..	17800	1.11.32	15	8,898	5·06	450·33	350	Mature	353, 496, 489, 537, 412, 434	Prince of Belgonia
Jersey Vale Doris ..	24535	20.11.32	4	7,424	4·86	360·79	350	Mature	287, 348, 373, 385	Princess 2nd's Twylish of Grangelea
Gange, Mrs. E. M., Werribee, Ayrshire (6).										
Roseleigh Betty	24306	29.9.32	8½	5,712	4·50	257·30	290	Sr. 3	.. ..	Roseleigh Baronet
Roseleigh Rarity	20701	6.10.32	5	9,252	4·44	410·56	350	Mature	217 ..	Roseleigh Allan
Roseleigh Starlight ..	20702	19.10.32	11	10,989	3·97	436·81	350	Mature	196, 183, 414	Oakbank's Reply
Roseleigh Wisteria ..	16585	25.10.32	17	10,973	4·18	458·93	350	Mature	254, 488 ..	Oakbank's Reply
*Roseleigh Moonlight ..	24312	2.11.32	4	5,243	5·04	264·27	230	Jr. 2	.. ..	Roseleigh Advance
Roseleigh Balm 2nd ..	24304	18.11.32	14½	5,621	4·48	251·59	230	Jr. 2	.. ..	Roseleigh Advance
Roseleigh Irene	20695	24.11.32	8½	8,747	3·95	345·19	350	Mature	275, 344 ..	Oakbank's Reply
Roseleigh Merle	18898	8.12.32	16	8,067	4·87	392·46	330	Sr. 4	379 ..	Oakbank's Reply

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Gardener Bros., Welshpool, Jersey (1).										
Lauriston Snowshoe's Duchess	25893	30.9.32	7	6,041	5·79	349·69	350	Mature	257, 297, 334	Lauriston Twylish Nobility
Lauriston Musical Belle ..	25892	17.10.32	6½	6,099	5·58	340·18	330	Sr. 4	231, 283, 210	Musician of Warenda
Lauriston Bluebell 2nd ..	C.R.	28.10.32	7	4,316	5·20	224·38	230	Jr. 2	.. ..	Lauriston Twylish Nobility
Gay, R. G., North Devon, Jersey (1).										
Elmgrove Alfalfa 2nd ..	C.R.	15.10.32	13	5,603	5·29	296·33	230	Jr. 2	.. ..	Gold Star of Melrose
Gepp, H. W., Macleod, Jersey (0).										
Maid 3rd of Linden ..	10603	18.11·32	10½	5,567	6·15	342·36	350	Mature	412, 265, 358, 404, 513, 423, 459, 540	Chief of Linden
Strathalan Moonlight ..	C.R.	2.12.32	14	4,391	5·24	229·89	230	Jr. 2	.. ..	Lord Lillan 2nd
Strathalan Skylight ..	C.R.	22.12.32	8½	2,754	5·76	158·66	230	Jr. 2	.. ..	Strathalan Flier
Gibson Bros., Trafalgar, Jersey (2).										
*Leathorne Cream Star	33364	28·9·32	N.O.C.	4,530	5·77	261·30	250	Sr. 2	224 ..	Leathorne Cream Chief
*Leathorne Mercedes Gipsy Star	24366	30.9.32	N.O.C.	5,385	6·55	352·53	330	Sr. 4	283 ..	Mercedes Gipsy Boy of Glen Iris
Gorman, A. W., Alexandra, Ayrshire (2).										
Cathcart Ladylove ..	17491	28.9.32	15½	9,640	4·34	418·75	350	Mature	268, 268, 409	Poppy's Advance of Ben Kell
Muriel of Cathcart ..	13522	16.10.32	30	11,024	4·82	531·15	350	Mature	206, 298, 403, 370, 499, 523	Poppy's Advance of Ben Kell
Gregg, V., Whittlesea, Jersey (0).										
†Stoneycroft Ino ..	21307	11.12.32	4	3,150	5·27	165·93	350	Mature	249 ..	Glentwylish
Handbury J. and Son, Toora, Jersey (1).										
Tooravale Milkmaid 9th ..	C.R.	28.9.32	8½	3,459	6·58	227·52	230	Jr. 2	.. ..	Tooravale Goldspeck
Tooravale Lassie Fowler 8th	C.R.	15.10.32	19½	5,071	5·64	285·77	250	Sr. 2	.. ..	Tooravale Golden Mac
Tooravale Lassie Fowler 10th	C.R.	4.12.32	12	4,006	5·63	225·44	230	Jr. 2	.. ..	Kingsvale Monica 14's Son
Handley, S. C., Dandenong, Jersey (1).										
Xavier Bluebelle 2nd ..	C.R.	10.11.32	20½	7,230	5·73	414·52	230	Jr. 2.	.. ..	Werribee Lord Fancy
Harker, W. T., Caldermeade, Ayrshire (0).										
Coulcraggie Annie ..	14630	6.10.32	9½	7,749	3·90	302·06	350	Mature	295, 234, 334	Lochiel of Gowrie Park
†Wayside Alice ..	C.R.	9.10.32	4	3,930	3·79	148·80	230	Jr. 2	.. ..	Gowrie Park Great Scot
‡Wayside Clover	20816	10.10.32	4	6,135	4·82	295·47	310	Jr. 4	302, 355 ..	Wayside Royal
Wayside Ibex	C.R.	8.11.32	8	4,781	4·07	194·54	230	Jr. 2	.. ..	Gowrie Park Great Scot
‡Wayside Waratah ..	22214	3.12.32	4	5,055	4·01	202·71	270	Jr. 3	.. ..	Wayside Carnival
Wayside Carnation ..	16899	17.12.32	14	6,501	3·97	258·40	350	Mature	245, 343, 358, 352, 318	Leila's Optimist of Warrook
Harrison, F. T., and Sons, Moondarra, Jersey (1).										
Mornmoot Mannette ..	28552	11.10.32	5	6,740	5·59	376·53	290	Sr. 3	290, 387 ..	Koomangoonong Prince Nephitos 5153
Harvey, T., Boysdale, Jersey (8).										
Jerseyholm Empress 10th	25396	28.9.32	14½	7,671	6·58	504·96	350	Mature	400, 544 ..	Handsome Boy 5th of Melrose
Empress 4th of Jerseyholm..	13356	14.10.32	18	9,675	4·89	473·26	350	Mature	383, 385, 405, 372, 444	Venture's Hero
Jerseyholm Blue Bell 8th ..	25393	3.11.32	16	7,141	6·29	449·51	350	Mature	297, 319 ..	Lord Island Fancy of Bruce Vale
Jerseyholm Empress 21st ..	34063	6.11.32	13½	5,822	5·27	307·06	250	Sr. 2	276 ..	Lord Island Fancy of Bruce Vale
Jerseyholm Blue Bell 7th ..	23202	11.11.32	14½	8,088	5·13	415·16	350	Mature	310, 347, 338, 434	Handsome Boy 5th of Melrose
Jerseyholm Empress 17th ..	28755	19.11.32	13½	6,294	5·33	335·53	290	Sr. 3	.. ..	Lord Island Fancy of Bruce Vale
Jerseyholm Empress 13th ..	25398	21.11.32	14	7,028	5·75	404·07	330	Sr. 4	338, 429 ..	Werribee Master's Fox
Jerseyholm Kirsty 16th ..	18736	4.12.32	19	8,432	5·42	457·14	350	Mature	351, 433, 455, 455, 411, 455	Handsome Boy 5th of Melrose
Haywood, Dr., Hastings, Jersey (0).										
Linga Longa Fairy Bell 2nd	36885	11.12.32	14	4,550	6·99	318·14	350	Mature	.. ..	Dawn of Warenda
Hastings, R. P., New Gisborne, Jersey (0).										
Elderslie Iris	24385	24.10.32	7	5,420	5·22	282·74	350	Mature	.. ..	Noble Airman of Banyule
Henderson, R. and Son, Macorna, Ayrshire (2).										
§Rippon Lea Violet ..	C.R.	10.10.32	18	7,206	4·66	335·51	230	Jr. 2	.. ..	Lloyd of Cathcart
Meadow Lass of Sunnyside..	13005	23.12.32	18	8,459	4·34	366·93	350	Mature	452, 394, 359, 299	Bernie of Oakbank

* 210 days in test, herd withdrawn. † 210 days in test. ‡ 240 days in test. § 252 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Henderson, W., Grasmere, Ayrshire (Home) (4).										
Carracoorte Brownie's Rose Petal	C.R.	4.10.32	8½	4,386	5·51	241·89	230	Jr. 2	.. ..	Carracoorte Maiden's Laddie
Carracoorte Briar Bud ..	23546	8.10.32	11	7,563	5·07	383·40	270	Jr. 3	286	Carracoorte Lochiel
Carracoorte Bunty 12th ..	17455	17.10.32	18	8,565	4·69	401·40	350	Mature	262, 278, 308	Leader of Cathcart
*Carracoorte Bellona's Picture	23544	28.10.32	4	4,598	5·17	237·87	270	Jr. 3	209	Carracoorte Lochiel
†Carracoorte Bellona 12th..	23542	2.11.32	4	5,520	4·61	254·42	270	Jr. 3	243	Carracoorte Lochiel
Sparrovale Rhoda ..	16700	25.12.32	31½	9,344	4·18	390·57	350	Mature	341, 367, 376	Scottish Fame of Gowrie Park
Henderson, W., Dennington, Ayrshire (Share Farm) (0).										
‡Dairy Lass 2nd of Carracoorte	9348	23.10.32	4	4,020	4·78	192·30	350	Mature	364, 246, 325, 264, 291, 274, 384	Lord Dudley of Gowrie Park
Hercus, T. B., Hayanmi, via Mitiamo, Jersey (2).										
Maloga Wattle	C.R.	16.10.32	19	6,764	5·35	361·94	230	Jr. 2	321	Prince of Maloga
Jessie of Maloga	18750	23.11.32	18	6,624	5·45	360·70	350	Mature	388	Delight of Melrose
Holbing, L. W. C., Tongala, Jersey (3).										
Eildon Actress 2nd ..	25943	5.10.32	11	6,381	6.13	391·22	350	Mature	300, 310, 381	Last Choice of Belgonia
Eildon Thelma	C.R.	18.10.32	12½	5,037	5·94	298·97	230	Jr. 2	.. ..	Ballara His Majesty
Eildon Honey Queen ..	C.R.	10.11.32	12	6,448	5·58	359·76	230	Jr. 3	.. ..	Ballara His Majesty
Hore, L. G., Horefield, via Leitchville, Illawarra, Shorthorn (6).										
Kimo Viola	2791	2.10.32	14	9,917	4·17	413·07	250	Sr. 2	311	Doncaster of Darbalara
Melba 78th of Darbalara ..	16932	2.10.32	13½	8,042	4·61	370·62	350	Mature	174, 250, 370	Darby of Darbalara
Kurrawong Snowdrop 29th	3125	2.10.32	21	8,108	3·95	319·96	250	Sr. 2	.. ..	Standard of Cosy Camp
Horfield Daisy 1st ..	A.I.S. H.B.	16.10.32	15½	9,315	4·24	395·08	270	Jr. 3	329	Doncaster of Darbalara
Horfield Virginia	A.I.S. H.B.	26.10.32	13½	5,013	4·65	232·99	230	Jr. 2	.. ..	Colma of Aralabrad
Rosemont Marie 3rd ..	3128	18.11.32	6	6,093	3·77	229·71	250	Sr. 2	.. ..	Merry Count of Berry
Aralabrad Champion 2nd ..	16847	20.11.32	12½	7,533	4·75	358·10	350	Mature	342	Cromwell of Darbalara
*Melba 80th of Darbalara ..	16934	25.11.32	4	5,205	4·64	241·59	350	Mature	229, 225 ..	Walton of Darbalara
Horfield Mona	A.I.S. H.B.	6.12.32	13	5,196	4·35	226·13	250	Sr. 2	.. ..	Colma of Aralabrad
†Rosemont Dot 3rd ..	3126	18.12.32	4	5,265	3·67	193·32	270	Jr. 3	271	Rosemont's Topsy's Count
Ruby 16th of Darbalara ..	16940	19.12.32	12½	5,750	4·19	241·21	350	Mature	243, 254 ..	Re-Echo of Darbalara
Hore, M. T., Horefield, Friesian (3).										
St. Orams Gem	2319	31.10.32	24	13,803	4·03	555·76	350	Mature	332, 415, 455, 454	Dominion Oakwood
Greenvale Flora	App. 2 Vol. II.	12.11.32	19	11,238	4·31	484·45	310	Jr. 4	.. ..	Victoria Double Oak De Kol
Greenvale Segis Patch ..	3495	1.12.32	27	15,483	3·61	559·28	310	Jr. 4	.. ..	Lydholme Segis Paxton
Howlett, E., Morwell, Jersey (6).										
Latrobe Lily 12th ..	28974	6.10.32	9	6,469	4·94	319·72	270	Jr. 3	306 ..	Latrobe Molly's Airman
Latrobe Lily 13th ..	28975	11.10.32	7	5,690	5·09	289·54	270	Jr. 3	265 ..	Latrobe Molly's Airman
Latrobe Lily 10th ..	28972	16.10.32	8½	5,864	5·66	331·74	290	Sr. 3	277 ..	Latrobe Molly's Airman
Latrobe Lily 14th ..	37597	2.11.32	7	3,738	5·71	213·36	230	Jr. 2	.. ..	Joystick of Banyule
Latrobe Statuette 3rd ..	37606	2.11.32	7	4,868	5·35	260·42	230	Jr. 2	.. ..	Joystick of Banyule
Latrobe Silvermine 4th ..	25423	8.11.32	7½	4,988	5·51	275·00	310	Jr. 4	248, 305 ..	Superstrain of Banyule
Latrobe Silvermine 6th ..	37604	8.11.32	6	4,006	5·52	221·16	230	Jr. 2	.. ..	Joystick of Banyule
Latrobe Countess 3rd ..	28969	9.11.32	9	5,502	5·14	282·53	270	Jr. 3	256 ..	Latrobe Molly's Airman
Latrobe Lily 8th	25419	15.11.32	9	5,682	5·88	334·17	310	Jr. 4	298, 346 ..	Superstrain of Banyule
Latrobe Starfinch 3rd ..	28977	11.12.32	5½	3,968	5·16	204·58	270	Jr. 3	283 ..	Latrobe Molly's Airman
Latrobe Molly 4th ..	28976	13.12.32	N.O.C.	3,509	4·77	167·40	270	Jr. 3	.. ..	Milkmaids Chief of Banyule
Huffer, J. A., Gormandale, Jersey, (11).										
Glen Valley Fancy Girl ..	28981	30.9.32	6½	5,725	6·24	357·34	310	Jr. 4	279, 327 ..	Fancy Roses Lad of Glen Valley
Glen Valley Rosebloom ..	25431	8.10.32	7½	5,744	6·26	359·51	330	Sr. 4	270, 324, 370	Waverley's Count of Glen Valley
Glen Valley Ma Mie Rosette	37609	9.10.32	10½	4,953	4·68	231·57	230	Jr. 2	.. ..	Glen Allan Mariposa
Glen Valley Sand Girl ..	24404	9.10.32	10½	6,608	6·04	398·82	350	Mature	307, 342, 406, 421	Waverley's Count of Glen Valley
Glen Valley Wild Rose ..	34097	13.10.32	13	6,687	5·31	355·19	270	Jr. 3	324 ..	Cream Lad of Maylands
Verbena of Glen Valley ..	21360	17.10.32	8	7,609	5·90	448·87	350	Mature	338, 421, 510, 530, 524, 531	Jewell 3rd Morocco's Fox
Rosebud's Perrees Fancy of Glen Valley	21357	18.10.32	17½	9,417	5·77	543·82	350	Mature	307, 411, 445, 500, 546	Perree's Lad of Glenvalley
Sunny Brae Fancy Rose ..	21359	30.10.32	11	7,989	5·32	424·92	350	Mature	289, 388, 420, 466, 401	Werribee Northern Larkspur's Fancy
Melrose Handsome Girl 14th	25697	6.11.32	7½	6,689	5·96	398·35	350	Mature	217, 381, 400, 397	Sunset of Melrose
Czarina of Glen Valley ..	18754	7.11.32	10½	8,358	5·77	482·03	350	Mature	331, 399, 481, 486, 466	Pansy's Eminent of Rosemont
Rosebud 2nd of Paradise ..	13798	24.11.32	14	7,779	5·43	422·42	350	Mature	399, 401, 418, 524, 518, 540, 528	Werribee Northern Larkspur's Fancy

* 210 days in test. † 240 days in test. ‡ 180 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Hurley, P. and Sons, Murraydale, Jersey (3).										
*Hazelgrange Kitty ..	29591..	7.10.32	4	4,755	6·37	302·76	290	Sr. 3	339 ..	Master Clement of Glen Iris
Cosma's Treasure ..	24390	7.11.32	19	7,588	5·06	383·90	350	Mature	268, 343 ..	Retford Deer's Noble
Hazelgrange Kitty's Princess	29592	16.11.32	18	6,419	5·42	347·67	310	Jr. 4.	.. ..	Master Clement of Glen Iris
Hurrey, W. H., Koonwarra, Jersey (4).										
Kooreena Audrey 3rd ..	34099	10.10.32	17½	7,892	5·72	451·81	270	Jr. 3	387 ..	Columbine's Defiance of Linga Longa
Kooreena Minerva 7th ..	Vol. 20	2.11.32	14	5,774	5·36	309·46	230	Jr. 2	.. ..	Columbine's Defiance of Linga Longa
Kooreena Audrey 4th ..	Vol. 20	7.11.32	N.O.C.	5,289	6·31	333·56	230	Jr. 2	.. ..	Columbine's Defiance of Linga Longa
Kooreena Lulu 5th ..	Vol 20	14.11.32	13½	5,441	5·46	297·19	230	Jr. 2	.. ..	Kooreena Carrie 3rd Delegate
Hutchinson J. and Sons, Somerville, Jersey (2).										
Somerville Primrose ..	28780	6.10.32	20	7,243	6·13	444·09	310	Jr. 4	333, 357 ..	Banyule Aeronaut
St. John's Pearl	33058	7.10.32	22	9,588	5·01	480·09	330	Sr. 4	340 ..	Valda's Lad of Comely Banks
Ingram, A., Powelltown, Illawarra, Milking Shorthorn (0).										
*Hill View Limelights Dot 2nd	8179	1.10.32	4	5,400	4·00	215·93	230	Jr. 2	.. ..	Limelight of Hill View
Donrobin Vivian 2nd ..	5052	19.11.32	5	4,148	4·31	178·90	230	Jr. 2	.. ..	Premier 2nd of Kurrawong
Fairfield Gwen 6th ..	1899	7.12.32	12	7,962	3·29	262·21	270	Jr. 3	251 ..	Aerobat of Greyleigh
Florrie II. of Glenburn ..	11441	26.12.32	4	4,470	4·32	193·20	350	Mature	261, 247, 295	Tulip's Lad of Lemon Grove
Mossleigh Freda 2nd ..	5054	26.12.32	10½	4,047	3·89	157·31	230	Jr. 2	.. ..	Royalty of Glenburn
Itzerott Bros., Heathcote, Jersey (3).										
†Five Gums Fairy Fern ..	37630	21.10.32	4	810	5·20	42·15	250	Sr. 2	332 ..	Staghorn Clementine Masterpiece 2nd
Five Gums Primula 4th ..	25966	1.11.32	20½	8,255	5·76	475·25	310	Jr. 4	410 ..	Pearl's Lad of Coolwoola
Five Gums Goldie 2nd ..	25963	22.11.32	25½	9,992	5·04	503·30	350	Mature	380 ..	Pearl's Lad of Coolwoola
Five Gums Fraulein ..	37633	22.12.32	19½	7,776	5·76	447·72	250	Sr. 2	366 ..	Staghorn Clementine Masterpiece 2nd
Jenkins, T. C., Tongala, Jersey (0).										
‡Strathbow Roseleaf ..	28990	2.12.32	N.O.C.	4,455	5·73	255·15	290	Sr. 3	256 ..	Troed-yr-Riew Torr-yr-Dydd
Kelly, P. S., Kiewa, Jersey (1).										
‡Thurgoona Aviatrix ..	C.R.	19.10.32	..	5,805	5·85	339·49	270	Jr. 3	.. ..	Aeronaut of Banyule
Kent, G. A., Archie's Creek, Ayrshire (0).										
‡Woolamai Picture ..	14999	29.9.32	4	5,475	4·47	244·56	350	Mature	241, 225, 238, 189	Statesman of Gowrie Park
*Woolamai Bright ..	17012	30·9.32	4	7,110	4·35	309·54	350	Mature	286, 343, 243	Statesman of Gowrie Park
Woolamai Rhoda ..	25633	3.10.32	..	5,057	4·86	246·02	270	Jr. 3	222 ..	Statesman of Gowrie Park
Woolamai Primrose ..	C.R.	5.10.32	..	5,013	5·02	251·79	270	Jr. 3	214 ..	Bonnie Boy of Woolamai Park
King, H. W., Warragul, Jersey (1).										
Karoola Mavis	33449	5.10.32	10½	6,875	5·73	393·86	250	Sr. 2	326 ..	Glenallen Mariposa
Knowles, T., Dandenong, Ayrshire (6).										
Dandy Peat	Vol. 25	27.9.32	21	7,589	4·00	303·47	230	Jr. 2	.. ..	Dandy Surprise
*Dandy Snowdrop ..	23616	29.9.32	4	7,530	5·26	395·73	270	Jr. 3	337 ..	Beleura Sarchedon
Dandy Melba	23611	29.9.32	21	9,588	4·37	419·25	290	Sr. 3	348 ..	Dandy Brilliant Boy
Dandy Adeline	Vol. 25	11.10.32	19	7,724	4·62	356·79	230	Jr. 2	.. ..	Dandy Masterpiece
Dandy Princess Margaret ..	C.R.	20.10.32	19½	7,143	4·39	313·23	230	Jr. 2	.. ..	Beleura Pensive
Glengowrie Anne ..	23868	30.10.32	12½	6,432	4·16	267·41	270	Jr. 3	.. ..	Glengowrie Baronet
Dandy Mabel	C.R.	7.11.32	11½	6,237	4·86	303·16	230	Jr. 2	.. ..	Beleura Sarchedon
Koenig Bros., North Mooroopna, Ayrshire (2).										
Kathleen of Midbranch ..	11789	6.11.32	28½	13,656	3·88	529·19	350	Mature	441, 480 ..	Leo of Midbranch
Borinya Lulu	21065	14.11.32	24	9,537	4·76	453·51	270	Jr. 3	365 ..	Hyde Park Desmond
Kurrle, J. G., Korumburra, Ayrshire (0).										
‡Grande View Anne Maria..	21693	4.10.32	4	4,640	3·92	182·01	310	Jr. 4	149, 134, 111	Grand View Blazer
§Grand View Petal ..	23986	8.10.32	4	4,365	4·38	191·38	270	Jr. 3	170 ..	Grand View Blazer
§Dandy Pearl	26314	1.11.32	4	3,330	4·01	133·59	250	Sr. 2	269 ..	Beleura Sarchedon
§Dandy Effie	C.R.	10.11.32	4	2,475	3·99	98·82	230	Jr. 2	.. ..	Dandy Masterpiece
Lade, A., Alexandra, Jersey (0).										
Hythe Fancy	Vol. 20	22.12.32	7½	2,436	5·33	129·91	270	Jr. 3	.. ..	Bruce of St. Albans
*Glen Vale Pansy ..	24449	27.10.32	4	5,940	5·15	306·09	350	Mature	272, 357, 420	King of St. Albans
Hythe Jess	37712	13.12.32	15	4,064	5·40	219·62	270	Jr. 3	323 ..	Bruce of St. Albans
Hythe Lorna	C.R.	25.12.32	13½	3,770	4·90	184·55	250	Sr. 2	.. ..	Snow's Boy of Farringdon
Lennie, Mrs. E. M., Tongala, Jersey (6).										
The Valley Black Rose ..	26017	1.10.32	16½	8,879	5·90	524·12	350	Mature	299, 458, 438	Black Thorn of Fairview
The Valley Merella 3rd ..	26021	2.11.32	12½	6,758	5·35	361·65	350	Mature	238, 334, 404	Black Thorn of Fairview
The Valley Wattle ..	37741	2.11.32	20	7,269	5·59	406·70	250	Sr. 2	319 ..	Black Thorn of Fairview

* 240 days in test. † 60 days in test. ‡ 210 days in test, herd withdrawn. § 180 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Lennie, Mrs. E. M., Tongala—*continued.*										
The Valley Merella 2nd ..	23259	9.11.32	12½	4,358	6·17	268·75	350	Mature	267, 372, 415, 405, 317	Stargazer of the Valley
The Valley Myrtle ..	34166	14.11.32	7	4,092	5·05	206·52	270	Jr. 3	269 ..	Black Thorn of Fairview
The Valley Stumpy 3rd ..	28827	16.11.32	13½	8,130	5·49	446·21	310	Jr. 4	336, 422 ..	Black Thorn of Fairview
The Valley Princess ..	37738	21.11.32	15½	6,420	5·46	350·51	250	Sr. 2	318 ..	Black Thorn of Fairview
The Valley Dahlia 2nd ..	23256	19.12.32	16	6,614	5·81	384·11	350	Mature	248, 345, 342	Stargazer of the Valley
Le Noury, E., Werribee, Guernsey (1).										
Werribee Tulip	2640	11.10.32	N.O.C.	4,312	5·76	248·57	270	Jr. 3	205 ..	Yarraview Saxon
*Melbourne Golden Modesty	3668	21.10.32	4	2,550	5·74	146·46	230	Jr. 2	.. ..	Melbourne Don 7th
Werribee Princess Daffodil..	1245	24.10.32	13	6,849	5·15	352·48	350	Mature	388 ..	Gem of Meadow View
†Loulous Darling 2nd of the Salines	Vol. 9	3.11.32	4	4,425	5·47	242·10	350	Mature	311 ..	Clara's Rambler of Maple Lodge
Melbourne Pearl	2711	19.11.32	7½	4,571	5·86	267·89	270	Jr. 3	213 ..	Yarraview Saxon
Lindsay, G., Pakenham, Jersey (2).										
Alister Carmen	26227	15.11.32	11	6,273	4·99	313·18	350	Mature	.. ..	Meridale Bright Light
Unanderra Respond ..	C.R.	25.11.32	11½	4,295	5·57	239·14	230	Jr. 2	.. ..	Meridale Bright Light
Alister Snowflake ..	29470	2.12.32	13½	5,996	5·88	352·34	310	Jr. 4	.. ..	Meridale Bright Light
Lowing, Mrs. L., Tongala, Jersey (2).										
Patricia of Jersey Vale ..	18886	7.10.32	13½	6,656	6·14	408·39	350	Mature	217, 295, 449, 365, 376	Choice 2nd of Tarnpirr
Fern of Jersey Vale ..	19936	1.12.32	18	7,451	5·52	411·06	350	Mature	321, 283, 410, 381	Choice 2nd of Tarnpirr
Lyon, C. G., Heidelberg, Jersey (7).										
Ettie 9th of Banyule ..	18804	27.9.32	14½	7,560	5·69	430·15	350	Mature	258, 455, 416	Matador of Banyule
Banyule Silvermine 45th ..	24465	27.9.32	17	8,408	5·87	493·27	350	Mature	404, 428, 475	Wotton Airman (imp.)
Banyule Tiddlewinks 3rd ..	24473	12.10.32	19	9,563	5·38	514·22	350	Mature	460, 472, 426	Air Lord of Banyule
Banyule Silvermine 74th ..	C.R.	24.10.32	15	5,564	5·43	302·28	230	Jr. 2	.. ..	Superstrain of Banyule
Banyule Silvermine 46th ..	24466	20.11.32	12	6,930	5·61	389·03	350	Mature	390, 402, 462	Wotton Airman (imp.)
Silvermine 33rd of Banyule	18812	21.11.32	21	7,505	5·04	378·33	350	Mature	391, 438, 492, 467	Wooton Airman (imp.)
Banyule Silvermine 73rd ..	C.R.	23.11.32	12	4,766	5·69	271·37	230	Jr. 2	.. ..	Banyule Superstrain
Lyon, H. W., Sale, Jersey (3).										
Studleigh Duchess 9th ..	33073	28.9.32	10½	5,266	6·64	349·78	270	Jr. 3	419 ..	Studleigh's Masterpiece
Studleigh Duchess 3rd ..	25289	8.10.32	9	6,318	6·05	382·42	350	Mature	314, 434, 445, 449	Lord 5th of Brucevale
Olivedale Buttercup ..	37381	3.11.32	19	5,793	6·31	365·54	270	Jr. 3	395 ..	Studleigh Dandy
Macauley, C. W. W., Rochester, Jersey (3).										
Taranah Rainbow ..	C.R.	29.9.32	14	5,727	6·00	343·49	230	Jr. 2	.. ..	Duke of Invermay
Taranah Tassel	33490	1.10.32	12½	5,741	5·60	321·74	270	Jr. 3	335 ..	Duke of Invermay
Taranah Fair Lady ..	C.R.	7.11.32	12	4,923	5·81	285·87	230	Jr. 2	.. ..	Taranah Submarine
McCosh, S. J., Wandin North, Jersey (1).										
Carney Dell Brilliant 2nd ..	C.R.	7.12.32	19	5,318	5·82	309·37	230	Jr. 2	.. ..	Carney Dell Masterpiece
McDougall, J., Byaduk, Jersey (4).										
‡Park View Thora ..	24481	13.10.32	4	5,088	5·19	263·96	350	Mature	273, 283, 315	Cream Lad of Fairview
Park View Lona ..	34206	24.10.32	8½	4,871	6·13	298·50	270	Jr. 3	315 ..	Cream Lad of Fairview
Park View Shirley ..	26057	26.10.32	13½	6,579	5·80	381·52	330	Sr. 4	382, 424 ..	Cream Lad of Fairview
Park View Fancy.. ..	C.R.	26.10.32	15	5,790	4·86	281·44	230	Jr. 2	.. ..	Grangelea Royal
Park View Mayflower 3rd..	C.R.	15.11.32	15	5,567	5·08	282·61	230	Jr. 2	.. ..	Grangelea Royal
Park View Madge ..	29050	26.11.32	7	3,483	5·51	191·99	350	Mature	185, 230 ..	Cream Lad of Fairview
McInnes, A. A., Gunbower, Dairy Shorthorn (2).										
Loch Ness Pearl Beauty 4th	C.R.	3.10.32	11	5,943	3·97	235·81	230	Jr. 2	.. ..	Royal Duke of Derrimut
†Roseleaf 6th	D.S.H.B.A.	12·10·32	4	7,380	4·02	296·70	310	Jr. 4	241, 295 ..	132nd Earl of Pentland
Loch Ness Roan Moss ..	D.S.H.B.A.	8·11·32	16½	7,046	4·54	320·16	230	Jr. 2	.. ..	Braylands Matilda Duke
McLeish, H. F., Kernot, Jersey (6).										
Ewelme Mistletoe ..	C.R.	29.9.32	4	3,749	5·00	187·48	230	Jr. 2	.. ..	Staghorn Clementine 4th's Masterpiece
Ewelme Venus	C.R.	4.10.32	5½	3,632	6·00	217·93	230	Jr. 2	.. ..	Staghorn Clementine 4th's Masterpiece
Ewelme Bramble ..	C.R.	13.10.32	5	4,223	5·06	213·66	230	Jr. 2	.. ..	Staghorn Clementine 4th's Masterpiece
Aveley Attraction ..	33145	1.11.32	7	5,009	5·55	277·94	310	Jr. 4	228 ..	Marc Antony of Aveley
Ewelme Southern Holly ..	C.R.	25.11.32	..	3,548	6·04	214·47	230	Jr. 2	.. ..	Northern Master of Glen Iris
McNabb and Son, Irrewillipe, Jersey (2).										
Ranunculus 2nd of Springhurst	18937	27.9.32	21	7,050	5·91	416·80	350	Mature	311, 368, 348, 443, 405	Othman of Springhurst
Chief's Marie of Boorene ..	21104	11.11.32	28	9,396	4·78	449·04	350	Mature	452, 402, 477, 434	Chloe's Mercedes Chief of Glen Iris

* 180 days in test. † 240 days in test. ‡ 254 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Maher Bros., Seymour, Ayrshire (0).										
‡Evelyn Betty	19973	17.10.32	4	6,150	3·85	236·70	350	Mature	228, 282, 316	Scottish Luck of Gowrie Park
Maher, R. H., Tongala, Jersey (2).										
Rosemont Silvermine ..	37880	9.10.32	4	4,324	6·02	260·42	270	Jr. 3	258 ..	Rosella 2nd's Noble of Rosemont
Rosemont Lady Fowler 5th	37876	10.10.32	4½	5,884	5·39	317·36	270	Jr. 3	319 ..	Rosella 2nd's Noble of Rosemont
Rosemont Jenny Lind 7th	37875	16.10.32	5½	5,802	5·83	338·08	350	Mature	340 ..	Rosella 2nd's Noble of Rosemont
Silvermine 39th of Banyule	18818	7.11.32	6½	7,515	4·94	371·59	350	Mature	429, 380, 444	Noble Airman of Banyule
Rosemont Lassie Fowler 5th	33493	8.11.32	4	3,750	5·22	195·70	310	Jr. 4	348 ..	Rosella 2nd's Noble of Rosemont
Rosemont Primrose 3rd ..	37879	30.11.32	5	3,735	5·12	191·28	270	Jr. 3	339 ..	Lassie's Duke of Eurangee
Mailer, Dr. R., Shepparton, Jersey (7).										
Maneroo Marge's Marguerite	33496	30.9.32	5½	7,029	6·09	428·00	310	Jr. 4	267, 381 ..	Uranus of Aveley
Maneroo Royal Flower ..	37894	30.9.32	15½	9,053	5·58	505·09	270	Jr. 3	380 ..	Wompini Royal Duke
Maneroo Faith	Vol. 20	18.10.32	17½	7,890	5·37	423·36	230	Jr. 2	.. ..	Wompini Royal Duke
Maneroo Jade	Vol. 20	24.10.32	16	5,784	5·85	338·54	230	Jr. 2	.. ..	Wompini Royal Duke
Maneroo Eve	C.R.	1.11.32	25	9,374	4.87	456·55	230	Jr. 2	.. ..	Wompini Royal Duke
Maneroo Baroness ..	37882	26.11.32	N.o.c.	8,948	6·57	587·94	270	Jr. 3	441 ..	Wompini Royal Duke
*Maneroo Daphne 2nd's Anne	33495	30.11.32	13	6,783	5·71	387·13	310	Jr. 4	242, 362 ..	Uranus of Aveley
Maloney, P. J., Tongala, Jersey (2).										
Belgonia Peggie 9th ..	37898	1.10.32	16	6,878	5·14	353·75	230	Jr. 2	.. ..	Aveley Rex
Belgonia Peggie 6th ..	29117	5.10.32	30	11,915	5·40	643·48	310	Jr. 4	469, 574 ..	Aerial of Banyule
Marshall, M., Myrtlebank, Jersey (1).										
Elthamleigh Twinkle Lass 2nd	22927	12.10.32	4	7,622	5·53	421·58	350	Mature	241, 391 ..	Dr. Jim of Koorawatha
Marshman, A. R., Archie's Creek, Jersey (0).										
Forgan Curiosity	33511	9.10.32	9½	4,572	5·41	247·31	290	Sr. 3	161 ..	Banyule Loom
Forgan Melody	33512	6.11.32	9½	5,366	5·11	274·09	290	Sr. 3	183, 200 ..	Comely Bank's Bestman
Meadowcroft, S., Stanhope, Jersey (2).										
Irymple Dawn	Vol. 20	12.10.32	12	6,074	5·68	344·91	270	Jr. 3	.. ..	Gladys Star of Lynroy
Irymple Sage	Vol. 20	17.12.32	13½	4,481	6·27	280·83	230	Jr. 2	.. ..	Royston of Somerville
Mesley, T., Dalyston, Jersey (5).										
Warenda Garenne 12th ..	C.R.	4.10.32	13	5,648	5·02	283·61	230	Jr. 2	.. ..	Belgonia Air King
Warenda Mandoline 6th ..	37922	25.10.32	5	7,536	5·28	397·79	270	Jr. 3	306 ..	Belgonia Air King
Warenda Ragtime 6th ..	37923	11.11.32	5½	4,695	6·12	287·27	250	Sr. 2	324 ..	Belgonia Air King
Warenda Garenne 11th ..	33518	14.11.32	9½	6,014	6·39	384·25	310	Jr. 4	434, 482 ..	Warenda Snap
Warenda Mandoline 3rd ..	29151	18.11.32	15½	6,023	6·10	367·46	350	Mature	375, 492 ..	Warenda Snap
Middleton, E. M., Hamilton, Jersey (1).										
Melrose Zoe 10th ..	29165	28.9.32	16	6,552	6·34	415·10	310	Jr. 4	308, 266 ..	Masterpiece (imp.)
Haifa Topsy Lotus ..	29001	4.12.32	15	4,286	6·22	266·72	290	Sr. 3	245, 212 ..	Staghorn's Lotus Cream's Masterpiece
Miller, Mr. F. W., Albert-street, Sebastopol, Jersey (2).										
Blackwood Grove Miss Leach	37935	29.10.32	23	7,143	5·67	404·89	270	Jr. 3	.. ..	Burnside Concord
Warenda Gazelle 9th ..	37936	30.10.32	17½	6,341	4·59	290·88	270	Jr. 3	.. ..	Belgonia Air King
Milne, R. K., Camperdown, Jersey (1).										
†Allamble Queen 3rd ..	29506	1.10.32	..	7125	4·41	314·52	310	Jr. 4	274, 352 ..	Prince of Kirkhill
Moore, J., and Co., Yarram, Jersey (4).										
†Tooloonook Trixie 6th ..	33549	1.10.32	4	5,160	5·45	281·40	310	Jr. 4	208, 404 ..	Heroic of Somerville
Tooloonook Boltonia 4th..	C.R.	7.10.32	9½	5,147	5·71	293·75	230	Jr. 2	.. ..	Heroic of Somerville
‡Burnside Lilac Bloom 3rd	33542	9.10.32	4	2,745	5·48	150·36	350	Mature	283, 207, 332	Retford Lord Twylish
Tooloonook Trixie 9th ..	C.R.	13.10.32	9	4,217	5.35	225.69	230	Jr. 2	.. ..	Tooloonook Clianthus Hero
Burnside Molly	25563	23.10.32	4	5,834	5·19	303·05	350	Mature	438, 431, 271	Retford Lord Twylish
†Tooloonook Angler's Belle	33539	23.10.32	4	6,360	5·33	338·79	350	Mature	440, 398 ..	Heroic of Somerville
Tooloonook Belle 2nd ..	37953	23.10.32	N.o.c.	7,112	5·05	359·18	290	Sr. 3	308 ..	Heroic of Somerville
Tooloonook Verbena 2nd..	37960	27.10.32	N.o.c.	5,685	5·26	299·26	290	Sr. 3	257 ..	Heroic of Somerville
Tooloonook Trixie 11th ..	C.R.	30.10.32	6½	5,007	5·08	254·39	230	Jr. 2	.. ..	Heroic of Somerville
Heather 2nd of Springhurst	16967	1.11.32	18	7,005	4·85	339·49	350	Mature	289, 343, 349	Alloy of Banyule
Tooloonook Maiden ..	37957	16.11.32	7	5,423	4·29	232·59	270	Jr. 3	195 ..	His Majesty of Somerville
Tooloonook Plumbago 2nd	25568	15.12.32	15	6,342	5·51	349·48	350	Mature	323, 427, 463	Heroic of Somerville
Maiden of Comely Banks..	18708	16.12.32	12½	3,419	5·27	180·20	350	Mature	325, 206, 317	Lily's Lad of Holmwood
Murray, H. C., Murrabit West, Jersey (0).										
Moorunduden Dorothy ..	26106	2.12.32	11½	5,261	5·62	295·83	350	Mature	.. ..	Sweet Fox of the Valley
Moorunduden Rose ..	37974	17.12.32	13	3,586	5·34	191·51	230	Jr. 2	.. ..	Lord Lily 2nd of Meryula

* 256 days in test. † 240 days in test. ‡ 180 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.		Sire.
Nancarrow Bros., Kerang, Jersey (1).											
Bellaire Starette 5th ..	Vol. 20	5.10.32	20	7,697	5·68	437·37	310	Jr. 4	..	..	Bellaire Noble 2nd
Nicholas, A. M., Shoreham, Jersey (1).											
Jubilee Rowan ..	38128	21.12.32	17	5,785	5·33	308·24	250	Sr. 2	..	..	Jubilee Whatlight
Noble, T. and Son, Maffra, Jersey (2).											
Wompini Vasilika ..	37997	27.11.32	25	9,152	5·78	528·68	310	Jr. 4	359, 341	..	Werribee Masterman
Jerseyinn Nasturtium 2nd..	33568	21.12.32	15	6,802	6·18	420·57	310	Jr. 4	337	..	Werribee Bluebell's Masterpiece
Nolte, E. H., Merino, Jersey (3).											
*Nairana Virginia 2nd ..	29268	30.9.32N.O.C.		6,165	4·92	303·45	350	Mature	270, 335	..	Burnside Audacious
*Nairana Cloth of Gold ..	29225	12.10.32N.O.C.		6,015	6·45	388·23	350	Mature	453, 450	..	Burnside Audacious
*Nairana Semeramis 4th ..	29261	16.10.32N.O.C.		4,800	5·64	270·93	250	Sr. 2	305	..	Strathbow Goldstar
Nairana Virginia 6th ..	29272	17.10.32	19	6,440	6·07	390·59	270	Jr. 3	417	..	Strathbow Goldstar
Norman, J. G., Pennyroyal, Jersey (1).											
Clarendon Eyre Lilac Domino 2nd	C.R.	14.11.32	10½	7,175	6·26	449·39	230	Jr. 2	..	..	Clarendon Eyre Happy Husband
Onley, W. H., Caldermeade, Ayrshire (0).											
*Holm Bright	21780	5.10.32	4	3,465	4·64	160·71	270	Jr. 3	181	..	Pride of Thirlmere
Overend, Mrs. A. C., Sale, Jersey (0).											
Bon Accord Warelvie ..	38013	2.10.32	5½	3,320	5·87	195·02	250	Sr. 2	..	..	Bon Accord David
Bon Accord Bell 2nd ..	C.R.	26.10.32	7½	3,488	4·95	172·63	230	Jr. 2	..	..	Bon Accord John
Padgett, I., Werribee, Friesian (4).											
Braemar Maude Posch ..	C.R.	27.9.32	26½	11,507	3·86	444·55	290	Sr. 3	..	..	Bolebeck Master Key
Braemar Johanna ..	Vol. 12	7.12.32	13	10,647	3·85	409·63	310	Jr. 4	..	..	Bolebeck Master Key
Lady Veeman Homestead	2208	7.12.32	13	12,120	3·94	477·11	350	Mature	544	..	North Star Joe Homestead
Braemore Dutch Princess..	Vol. 12	20.12.32	25	7,892	3·95	311·66	230	Jr. 2	..	..	Braemore Trivalve
Pacey, W. J., Fenwick, L. B., Geelong, Jersey (1).											
†Leura Greta 4th ..	C.R.	6.10.32	19½	4,660	5·47	254·76	230	Jr. 2	..	..	Admiral of Leura
Pattison, F., Tongala, Ayrshire (2).											
Willow Park May ..	16927	27.9.32	10	9,201	3·82	351·59	350	Mature	305, 277	..	Tonga Park James
‡Tonga Park Betty ..	16854	19.10.32	4	6,525	3·91	255·30	350	Mature	340, 204	..	Clansman of Glenholme
Willow Park Victoria ..	16928	15.11.32	7½	7,151	4·09	292·53	350	Mature	260,342	..	Tonga Park James
Willow Park Rosie ..	23344	16.12.32	18	6,420	3·86	247·82	230	Jr. 2	..	..	Willow Park Prince
Pearce, W. H., Eurack, Jersey (2).											
Lovely Bank's Lilac ..	C.R.	8.10.32	12	5,331	5·24	279·20	230	Jr. 3	..	..	Somerville Battle
Lovely Bank's Dolly ..	C.R.	22.11.32	13	5,417	5·43	294·34	250	Sr. 2	..	..	Maxon Masterpiece
Pearson, J., Neerena East, Jersey (1).											
Warrawee Bluebell ..	38040	5.10.32	17	6,451	4·98	321·48	250	Sr. 2	336	..	Canaries V.C. of King's Vale
Pettitt Bros., Geelong, Ayrshire (1).											
Blinkbrae Vera	21058	27.9.32	8½	6,557	4·16	272·87	250	Sr. 2	291	..	Blinkbrae Albert
*Blinkbrae Molly ..	23462	23.10.32	4	3,195	4·65	148·53	230	Jr. 2	..	..	Blinkbrae Lord
§Melba 2nd of Blinkbrae ..	14072	28.10.32	4	5,725	4·48	256·64	350	Mature	373, 350, 397		Lustre of Dunachton
Blinkbrae Milly	C.R.	2.11.32	4	2,939	4·40	129·34	230	Jr. 2	..	..	Blinkbrae Lord
Blinkbrae Mildred ..	22518	2.11.32	15½	4,730	3·93	185·75	230	Jr. 2	..	..	Hyde Park Dolly's Duke
Blinkbrae Verbena ..	22521	18.12.32	..	4,973	4·11	204·26	230	Jr. 2	..	..	Hyde Park Dolly's Duke
Phillips, Captain J., Murraydale, Jersey (0).											
Peri Vanilla 2nd	23367	4.12.32	13½	5,475	6·00	328·36	350	Mature	220, 313, 299, 339, 266		Peerless Eclipse of Meadowvale
Peri Empire 7th	C.R.	16.12.32	10½	2,564	5·40	138·52	230	Jr. 2	..	..	Royal Rover of Lea Hurat
Phillips, J. H. P. B., Swan Hill, Jersey (1).											
Kantara Jessamine 2nd ..	C.R.	8.10.32	13½	6,348	5·22	331·18	230	Jr. 2	..	..	Glen Iris Valiant Count
Plattfuss, J., Tongala, Friesians (4).											
Greenvale Oakwood Girl ..	Vol. 12	2.10.32	8½	6,635	3·24	215·31	250	Sr. 2	..	..	Dominion Oakwood
Greenvale De Kol Juno 2nd	Vol. 12	3.10.32	8½	6,648	3·37	224·34	230	Jr. 2	..	..	Victoria Double Oak de Kol
*Greenvale Oakwood Springfield	C.R.	4.10.32	4	4,935	3·29	162·15	230	Jr. 2	..	..	Dominion Oakwood
*Greenvale Oakwood Topsy	Vol. 12	12.10.32	4	5,700	3·57	203·40	230	Jr. 2	..	..	Dominion Oakwood
Greenvale Piebe Paxton ..	3492	14.10.32	8	9,572	3·26	311·66	310	Jr. 4	274, 292	..	Lydholme Segis Paxton
Greenvale Dutch Rose ..	Vol. 12	19.10.32	14	8,132	3·21	260·75	230	Jr. 2	..	..	Victoria Double Oak de Kol
‡Greenvale Dutch De Kol 2nd ..		27.10.32	4	6,210	3·41	212·07	250	Sr. 2	..	..	Victoria Double Oak de Kol
Greenvale Segis Empress ..	C.R.	5.11.32	14	6,300	3·57	224·68	230	Jr. 2	..	..	Lydholme Segis Paxton
Glen Elgin Clarice ..	2453	12.11.32N.O.C.		13,203	3·97	523·61	350	Mature	488, 490, 492, 425, 379		Victoria Double Oak de Kol
Greenvale Graceful Segis 2nd	Vol. 12	3.12.32	12	7,350	3·49	256·42	230	Jr. 2	..	..	Lydholme Segis Paxton

* 240 days in test. † 180 days, Herd withdrawn. ‡ 210 days in test § 250 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Poole, Mrs. M. A., Caldermeade, Ayrshire (0).										
Ryeland's Fairy 2nd ..	C.R.	13.11.32	11	4,281	4·63	198·09	290	Sr. 3	226 ..	Roseleigh Bruce
Poyner, R., Lilydale, Jersey (4).										
Kyora Foch's Anthem II...	23405	6.10.32	N.O.C.	6,872	5·54	380·87	350	Mature	285, 317, 324, 306, 402	Foch of Jerrara
Lilydale Jessie	C.R.	24.10.32	N.O.C.	4,694	5·58	262·12	230	Jr. 2	.. ..	Lilydale Warrior
Wompini Chloe 6th ..	34288	3.11.32	19	8,025	5·23	419·78	270	Jr. 3	358 ..	Werribee Masterman
Lilydale Harmony ..	C.R.	13·11·32	10	3,937	6·33	249·31	230	Jr. 2	.. ..	Lilydale Dauntless
Prout, A. P., Leongatha, Jersey (2).										
Wattle Vale Dream ..	24305	30.9.32	9½	6,779	4·87	329·89	350	Mature	317, 342, 338, 291	Duke of Melrose
Pineleigh Golden Lass ..	33635	4.10.32	12	6,166	6·23	384·42	290	Sr. 3	304, 305 ..	Wattle Vale Aladdin
Wattle Vale Golden Girl ..	24307	9.11.32	16½	7,576	5·39	408·52	350	Mature	366, 413, 481, 477	Duke of Melrose
Quigley and Bennett, Yinnar, Jersey (2).										
Linga Longa Cloudy 3rd ..	32958	22.10.32	15	7,457	6·24	465·28	350	Mature	.. ..	Dawn of Warenda
Jerseyinn Vanilla 3rd ..	23488	12.11.32	16	7,697	5·89	453·50	350	Mature	.. ..	Ventures Hero
Raggatt, F., Tongala, Jersey (3).										
Strathbow Goldie 10th ..	C.R.	14.10.32	14½	5,496	5·68	311·96	230	Jr. 2	.. ..	Banyule Mollerne
Strathbow Heather Belle 2nd	34294	5.11.32	9½	8,004	5·01	401·20	270	Jr. 3	375 ..	Banyule Fuselage
Carney Dell Brilliant ..	33916	21.11.32	18	6,534	5·38	351·31	310	Jr. 4	158 ..	Staghorn Lotus Cream Masterpiece
Raleigh, Miss H. E., Pakenham Upper, Jersey (4).										
*Goronga Farm Mary Rose	38096	3.10.32	4	3,458	6·83	236·21	270	Jr. 3	322 ..	Banyule Triplane
Hazeldale Lady	C.R.	5.10.32	12	4,562	7·02	320·09	230	Jr. 2	.. ..	Dinkum of Banyule
Goronga Farm Gipsy Moth..	38095	12.10.32	20	7,333	6·85	502·49	250	Sr. 2	435 ..	Banyule Triplane
Daffodil 2nd of Goronga Farm	14235	30.10.32	17	6,701	6·07	407·06	350	Mature	284, 285, 441, 464, 414, 381	Trumps of Banyule
Burnside Rosemary ..	23385	1.11.32	7½	6,594	6·22	410·19	350	Mature	368, 358, 367, 399, 416	Retford Lord Twylish
Ralph, A. and R., Moorabbin, Illawarra, Shorthorn (0).										
*Linda 6th of Lemon Grove	14331	5.11.32	4	6,840	4·14	282·84	310	Jr. 4	.. ..	Hero of Lemon Grove
Rankin, W. J., Trafalgar, Jersey (4).										
Marimba Linnett 2nd ..	38379	16.10.32	14	7,619	5·55	422·80	270	Jr. 3	410 ..	Werribee Lord Fancy
Marimba Betty's Sweetbread	38375	4.11.32	15	7,850	4·95	388·78	290	Sr. 3	358 ..	Sweetbread's Duke of Glen Iris
Sunny Creek Nancy ..	C.R.	9.11.32	13	5,268	4·88	257·00	230	Jr. 2	.. ..	Werribee Lord Fancy
Hazeldale Pearl Queen ..	38368	16.11.32	14	6,902	5·34	368·88	270	Jr. 3	248 ..	Dinkum of Banyule
Read, J. D., Springhurst, Jersey (2).										
Springhurst Frangipani ..	29334	8.10.32	15½	6,333	6·05	383·43	290	Sr. 3	360 ..	Glen Iris Valiant Prince
Springhurst Sybil Romneya	C.R.	23.11.32	17	5,418	6·19	335·18	230	Jr. 2	.. ..	Bellefaire Seaborn Successor
Rechenberg, J. F., Marshall, Ayrshire (8).										
*Sparrovale Banksia ..	16639	18.10.32	4	6,510	4·37	284·58	350	Mature	.. ..	Hotstuff of Sparrovale
Camelot Robina	C.R.	7.11.32	17	5,806	5·00	290·26	230	Jr. 2	.. ..	Scotswood Adonis Earl
Gala Gain 3rd	21436	28.9.32	18	9,106	4·63	421·23	310	Jr. 4	.. ..	Sparrovale Ronald
Gala Gain 4th	C.R.	3.10.32	15	6,373	4·55	289·74	230	Jr. 2	.. ..	Scotswood Adonis Earl
Camelot Bracelet ..	22577	19.10.32	12½	8,910	4·37	389·49	310	Jr. 4	.. ..	Hotstuff of Sparrovale
†Camelot Bonnie Maid ..	24662	25.10.32	4	6,481	4·34	281·43	250	Sr. 2	.. ..	Scotswood Adonis Earl
‡Sparrovale Bonnie ..	16642	4.11.32	4	5,985	4·00	239·33	350	Mature	.. ..	Sparrovale His Luck
Sparrovale Mona	16683	5.11.32	17½	8,498	4·47	379·85	350	Mature	.. ..	Scottish Fame of Gowrie Park
Camelot Norma	22580	19.12.32	15	6,570	5·19	340·90	310	Jr. 4	.. ..	Sparrovale Ronald
Camelot Budding Rose ..	C.R.	22.12.32	23	6,639	4·71	312·37	230	Jr. 2	.. ..	Scotswood Adonis Earl
Reid, Miss B. B., Bundoora, Jersey (5).										
Jubilee Rosebud 2nd ..	33667	6.10.32	12½	6,239	5·69	355·23	350	Mature	.. ..	Jubilee Whatlight
Jubilee Rhododendron ..	19946	7.10.32	14	6,668	5·64	375·90	350	Mature	.. ..	Goddington Winks 6th (Imp.)
Jubilee Arum	23388	5.11.32	14½	6,027	6·09	367·15	350	Mature	.. ..	Lily's Lad of Holmwood
Jubilee Snowdrop ..	33669	6.11.32	9	6,452	6·05	390·13	350	Mature	.. ..	Jubilee Whatlight
Jubilee Evergreen ..	C.R.	26.11.32	14	3,764	5·54	208·44	230	Jr. 2	.. ..	Jubilee Asterlight
Jubilee Foxglove ..	29345	3.12.32	15	5,792	4·81	278·82	350	Mature	.. ..	Jubilee Whatlight
Jubilee Fern	25474	9.12.32	22	6,060	5·09	308·50	350	Mature	.. ..	Jubilee Australight
Jubilee Romneya ..	Vol. 20	13.12.32	15	4,379	5·85	256·37	230	Jr. 2	.. ..	Jubilee Wheatenlight
Jubilee Acorn	Vol. 20	26.12.32	14½	4,647	5·72	265·94	330	Sr. 4	.. ..	Jubilee Whatlight
Richardson, W. S., Bacchus Marsh, Jersey (0).										
Sutton Lea Midge ..	29350	30.9.32	9	6,120	5·17	316·61	330	Sr. 4	179, 329 ..	Sutton Lea Impulse
Garenne 5th of Warenda ..	15557	26.10.32	11	5,678	5·98	339·49	350	Mature	307, 328, 385, 437, 346, 394, 322, 308	Kinnor of Banyule
Jenny Lind of St. Albans ..	23414	29.10.32	13	5,529	6·23	344·42	350	Mature	.. ..	King of King's of St. Albans

* 210 days in test. † 255 days in test. ‡ 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Richardson, W. S., Bacchus Marsh—*continued.*										
Charmian 3rd of Warenda ..	17802	10.11.32	15	5,916	5·73	338·91	350	Mature	345, 350, 443, 297, 353, 299	Kewpie of Warenda
Sutton Lea Jenny ..	23394	1.12.32	14	4,635	6·56	304·08	350	Mature	237, 265, 292, 311, 441	Starbright's Prince of Glen Iris
Laane Frond	21331	9.12.32	11	5,511	5·80	319·49	350	Mature	321 ..	Laane Lord Chief
Butter Queen 3rd of St. Albans	21371	16.12.32	16	5,652	5·23	295·91	350	Mature	289, 334, 317, 230, 324, 315	Twylish Expectation of Banyule
Robinson, Miss S. L., East Kew, Jersey (0).										
*Woodside Reprieved 2nd	26444	4.10.32	4	4,710	5·02	236·52	350	Mature	107, 290, 355	Speedwell's Volunteer (Imp.)
†Kyora Merry Mike's Mayflower 4th	26441	7.10.32	4	4,035	5·50	222·08	350	Mature	314, 346, 269	Foch of Jerrara
Sybil's Oakleaf of Woodside	21625	19.10.32	10½	4,781	5·49	262·38	350	Mature	208, 233, 342, 354, 282	Pedro
Kyora Bettwys-y-Coed 3rd ..	38169	20.10.32	7½	3,020	5·11	154·41	230	Jr. 2	.. ..	Woodside Reprieve's Volunteer
Bonne Chance	13867	31.10.32	6	4,853	5·08	246·65	350	Mature	460, 392, 346	Observer
Kyora Reprieved ..	29372	3.12.32	8½	4,235	5·36	227·01	310	Jr. 4	299 ..	Foch of Jerrara
Rodda, W. G., Warracknabeal, Jersey (0).										
Aveley Lettie 5th ..	25409	3.10.32	9	6,855	4·81	329·54	350	Mature	230, 330, 351	Economist of Aveley
Thurso Beauty	24205	4.10.32	4	4,722	5·32	251·13	270	Jr. 3	241 ..	Clover Flat Lottie's Beau
Thurso Bonnie	34306	21.12.32	4	3,392	5·67	192·42	250	Sr. 2	260 ..	Clover Flat Lottie's Beau
Ronalds, O., Tarago, Jersey (1).										
Somerville Babette ..	28776	2.11.32	17	8,093	6·03	487·68	310	Jr. 4	.. ..	Banyule Aeronaut
Ross, P. B., Woodend, Jersey (0).										
Clarendon Eyre Wildflower	29630	14.11.32	11½	5,240	4·74	248·21	330	Sr. 4	312, 296 ..	Clarendon Eyre Eminent One
Ryan, D. M. and Sons, Colac, Illawarra Shorthorn (1).										
Pearl of Lawarra ..	16499	6.11.32 N.O.C.		7,748	4·27	330·54	330	Sr. 4	.. ..	Mascot of Lawarra
Salesian College, Sunbury, Ayrshire (1).										
Rupertswood Spotless ..	20712	5.10.32	20	7,208	3·59	258·48	290	Sr. 3	167, 203 ..	Bonnie Scot of Gowrie Park
Rupertswood Patience ..	22058	4.11.32	15	7,604	3·76	285·68	350	Mature	201, 328, 376	Ascot of Elmsdale
†Rupertswood Lady Mac ..	20710	7.11.32	4	6,863	3·80	261·02	350	Mature	261, 216, 286	Bonnie Scot of Gowrie Park
Schier, H. A., Rochester, Jersey (5).										
‡Green View Emerald ..	C.R.	28.9.32	..	4,619	5·77	266·34	230	Jr. 2	.. ..	Banyule Ettie's Air Lord
†Green View Rosa ..	C.R.	9.10.32	..	3,855	6·03	232·56	230	Jr. 2	.. ..	Banyule Ettie's Air Lord
†Green View Jannette 2nd	C.R.	12.10.32	..	4,395	5·49	241·17	230	Jr. 2	.. ..	Banyule Ettie's Air Lord
§Jenny Lind 2nd of Taff Vale	17831	14.10.32	4	4,740	4·92	233·09	350	Mature	352, 349, 396, 349, 218, 343	Trumpeter of Banyule
†Green View Wee Mite ..	34313	4.11.32	..	7,050	5·43	383·16	270	Jr. 3	353 ..	Perree's Spark of Glen Iris
†Green View Milkmaid ..	34310	25.11.32	..	5,040	5·98	301·50	270	J. 3r	326 ..	Perree's Spark of Glen Iris
Schlipalius, A. J., Kilmany South, Jersey (1).										
Butterfly of Fairbank ..	18962	10.10.32	12½	6,102	5·36	327·06	350	Mature	185, 313, 310, 251, 320	High Choice of Melrose
de Lecq Josephine ..	33731	11.10.32	16	6,180	5·05	312·34	270	Jr. 3	269 ..	Werribee Starbright Northwood
Fairbank Queenie 2nd ..	25598	30.10.32	7½	5,001	4·98	249·06	310	Jr. 4	297 ..	High Choice of Melrose
Schreenan Bros., Sebastopol, Ayrshire (1).										
Gowrie Park Mushroom ..	C.R.	19.11.32	8	6,195	4·54	281·33	230	Jr. 2	.. ..	Gowrie Park Scottish Patron
Selwyn Scott, F. E., Scotsburn, Dairy Shorthorn (2).										
Willow Park Peggy 3rd ..	D.S.H.B.A.	5.11.32	4	5,204	4·37	227·56	250	Sr. 2	193 ..	Willow Park Eminent
Willow Park Bloom 2nd ..	D.S.H.B.A.	21.11.32	22	8,106	4·17	338·12	270	Jr. 3	281 ..	Willow Park Reflector
Willow Park Duchess 14th..	D.S.H.B.A.	23.11.32	22½	10,032	4·25	425·89	270	Jr. 3	314 ..	Willow Park Reflector
Simpson, T. E., Lower Ferntree Gully, Jersey (5).										
Wompini Jessica	29483	29.9.32	12½	7,361	5·63	414·72	310	Jr. 4	393, 371 ..	Werribee Masterman
Wompini Rosalie 2nd ..	28265	3.10.32	11	6,665	6·19	412·25	250	Sr. 2	332 ..	Brucevale Bright Star
Wompini Agnes Grey ..	Vol. 20	6.10.32	10	4,410	5·91	260·63	250	Sr. 2	317 ..	Brucevale Bright Star
Brucevale Molly Madeira 4th	38263	18.10.32	6	4,433	6·65	294·76	270	Jr. 3	295 ..	Masterpiece of Brucevale
Heather Belle of Aberdour	18972	27.10.32	11	6,339	5·75	364·42	350	Mature	254, 389, 420, 418	Lord 2nd of Brucevale
Dunalister Perree's Noble Czarina	16328	27.11.32	15	6,605	4·90	323·60	350	Mature	296, 355 ..	Perree's Duke (Imp.)
Smith Bros., Mirboo North, Jersey (1).										
†Sylvan Hill Dawn ..	C.R.	28.9.32	4	4,260	5·24	223·41	230	Jr. 2	.. ..	Somerville Heir Apparent
‖Sylvan Hill Lady Alma ..	38282	18.11.32	4	6,414	5·66	362·97	270	Jr. 2	.. ..	Somerville Heir Apparent

* 210 days in test. † 240 days in test. ‡ 248 days in test. § 210 days in test. ‖ 256 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Smith, G. and W., Fish Creek, Jersey (5).										
Rydon Bright Eyes ..	29488	4.10.32	19½	7,669	6·15	471·90	310	Jr. 4	334 ..	Burnside Monitor
Rydon Countess	33764	13.10.32	14½	5,995	5·89	352·93	270	Jr. 3	312 ..	Burnside Monitor
Rydon Lady Patsy ..	29489	23.10.32	7½	6,400	5·53	354·12	310	Jr. 4	299, 348 ..	Burnside Monitor
Rydon Rosalind	29491	11.12.32N.O.C.		5,317	6·19	329·35	310	Jr. 4	335, 325 ..	Burnside Monitor
Rydon Alice	26364	13.12.32N.O.C.		5,916	5·89	348·31	330	Sr. 4	321, 326 ..	Peerless 19th Prince of Melrose
Smith, E. L. and Sons, Woodend, Friesian (3).										
Darenth Black Rose ..	2727	8·10·32	47½	19,104	3·72	710·35	350	Mature	345, 468, 584, 554	Springfield Champion
Roads End Cormasa ..	3706	9.10.32	20½	10,413	3·16	328·69	270	Jr. 3	395 ..	Rosevale Korndyke Sylvia Posch
Holmleigh Oporinus ..	Vol. 12	15.11.32	10	6,480	3·36	217·73	250	Sr. 2	.. ..	Holmleigh Oakfield
Holmleigh Ivy Domino ..	Vol. 12	18.11.32	20	7,665	4·04	310·01	230	Jr. 2	.. ..	Holmleigh Oakfield
Smith, W., Trafalgar, Jersey (2).										
Berri Brae Sweetheart ..	26370	1.10.32	..	5,810	6·28	364·91	330	Sr. 4	295 ..	Linda 55th V.C. of Kingsvale
*Berri Brae Pansy 2nd ..	33768	26.10.32	..	5,280	7·14	376·83	290	Sr. 3	316 ..	Glenloch Daisy Lad
Stoll, Mrs. L., Rokeby, Jersey (0).										
Cloverbank Gwen ..	C.R.	6.11.32N.O.C.		3,720	6·00	223·09	230	Jr. 2	.. ..	Cloverbank Lord Twylish
*Linga Longa Fancy ..	C.R.	25.11.32	4	2,670	6·44	172·07	250	Sr. 2	223 ..	Linga Longa Bankshee
Stoney, W. B., Drouin West, Jersey (0).										
Melrose Jessie 48th ..	25701	12.11.32	6½	3,572	5·38	192·05	350	Mature	210 ..	Sunset of Melrose
Melview Jenny Lind ..	29393	13.11.32	5	4,395	5·96	261·79	310	Jr. 4	284 ..	Sunburst of Melrose
Sutton and Son, Csilignee, Jersey (1).										
Glen Valley Lass	28982	15.10.32	8½	5,551	5·44	302·24	330	Sr. 4	299, 272 ..	Cream Lad of Mayland
Latrobe Stella 7th ..	25427	15.10.32	13½	6,521	5·48	357·38	310	Jr. 4	281, 322 ..	Superstrain of Banyule
Latrobe Connie	24396	25.11.32	14	5,436	5·50	299·09	350	Mature	330, 381 ..	Concentration of Banyule
Telford Bros., Kyabram, Ayrshire (2).										
Hyde Park Clarice ..	24040	4.10.32	..	5,783	4·84	279·91	250	Sr. 2	200 ..	Oakbank Aristocrat
*Hyde Park Daphne 2nd ..	18311	15.10.32N.O.C.		9,637	4·79	461·69	330	Sr. 4	342, 407, 381	Bell Boy of Ben Kell
Tomasetti, B. G., Drouin West, Ayrshire (2).										
Leithvale Leila	20468	12.10.32	18	7,913	4·49	355·63	350	Mature	315, 340 ..	Gleneira Grantham
Glencorren Viola	21508	16.10.32	17	7,916	4·93	390·05	270	Jr. 3	281 ..	Scotswood Michael 2nd
Gleneira Mary B ..	20145	16.10.32	13	7,388	4·48	331·29	350	Mature	..	Brilliant's Banner of Oakbank
Trevaskis, F., Tongala (0).										
Ballara Model 9th ..	38426	20.10.32	..	3,623	6·03	218·31	230	Jr. 2	.. ..	Brucevale Lord Fancy Madeira
Tuckey, J. F., Alberton, Ayrshire (0).										
Tregorland Kewpie ..	C.R.	1.10.32	..	5,577	4·41	245·78	270	Jr. 3	280 ..	Tregorland Irresistible
Unthank, J., Somerville, Jersey (7).										
Moorooduc Norma ..	26261	4.10.32	12½	7,445	5·65	420·53	350	Mature	348, 362 ..	Moorooduc Repulse
Moorooduc Hope ..	23480	26.10.32	12½	6,421	5·34	343·01	350	Mature	377, 464, 362	His Majesty of Somerville
Silver Maid 2nd of Glenwood	19003	1.11.32	13	6,216	5·88	365·62	350	Mature	535, 501, 390	Lotus King of Staghorn
Moorooduc Ayalie ..	26259	3.11.32	14½	6,856	4·97	340·47	350	Mature	431, 414 ..	Repulse of Somerville
Moorooduc Belle	38447	3.11.32	12	5,674	5·77	327·21	290	Sr. 3	262 ..	Moorooduc Repulse
Moorooduc Lillian 2nd ..	C.R.	4.11.32	9½	3,845	6·58	252·99	230	Jr. 2	.. ..	Moorooduc Silver King
Moorooduc Lassie ..	21718	5.11.32	14½	7,085	5·13	363·73	350	Mature	399, 446, 393	His Majesty of Somerville
Moorooduc Jewel ..	33856	4.12.32	10½	5,663	5·51	311·78	290	Sr. 3	162, 353 ..	Moorooduc Repulse
Moorooduc Maisie 2nd ..	Vol. 20	26.12.32	17½	5,221	5·95	310·56	230	Jr. 2	.. ..	Moorooduc Silver King
Vagg, E. J., Leongatha, Jersey (2).										
Bonnay Lady's Amanda ..	Vol. 20	7.10.32	13	4,769	5·58	266·30	230	Jr. 2	.. ..	Melbourne Handsome Boy
Jerseyinn Edith 2nd ..	38450	8.11.32	24	8,860	6·86	607·82	270	Jr. 3	438 ..	Werribee Bluebell's Masterpiece
Van Brummelen, J. K., Lower Ferntree Gully, Friesian (2).										
Bolero Rosebud Petronella	3359	2.11.32	N.O.C.	8,294	4·05	335·58	270	Jr. 3	273 ..	St Alban's Queens Korndyke 2nd
Bolero Diana	C.R.	18.11.32	16	6.824	3·97	270·98	270	Jr. 3	247 ..	St. Alban's Queens Korndyke 2nd
Vaughan Bros., Girgarre, Jersey (6).										
*Lynroy Nancy 3rd ..	26269	3.10.32	4	7,425	5·53	410·34	350	Mature	426, 450, 458	Choice 2nd of Tarnpirr
Lynroy Pansy 2nd ..	Vol. 20	5.10.32	10	5,542	6·82	377·98	270	Jr. 3	292, 371 ..	Sherbourne Wyandotte King
Lynroy Gladys	38462	28.10.32	12	7,403	6·34	469·54	290	Sr. 3	433 ..	Sherbourne Wyandotte King
Lynroy Bluebell	38457	2.11.32	12	8,061	5·68	457·76	310	Jr. 4	371, 464 ..	Sherbourne Wyandotte King
Lynroy Viola 3rd ..	38467	28.11.32	12½	5,993	6·37	381·77	270	Jr. 3	335, 382 ..	Sherbourne Wyandotte King
Lynroy Jennie	Vo. 20	30.11.32	17	5,837	5·23	305·55	230	Jr. 2	.. ..	Sherbourne Wyandotte King

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire
Venn, V. A., Myrtlebank, Jersey (6).										
Pine Park Princess 2nd ..	Vol. 20	1.10.32	7½	4,431	5·66	250·85	230	Jr. 2	.. ..	Goranga Farm Jester
Pine Park Cream Girl 2nd ..	Vol. 20	6.10.32	19½	6,573	5·22	343·40	230	Jr. 2	.. ..	Goranga Farm Jester
Pine Park Lady's Choice 2nd	Vol. 20	10.10.32	18½	6,045	5·64	341·18	230	Jr. 3	.. ..	Goranga Farm Jester
Pine Park Duchess 2nd ..	Vol. 20	22.10.32	17	5,907	5·05	298·25	230	Jr. 2	.. ..	Goranga Farm Jester
De lecq Briarwood ..	Vol. 20	7.12.32	14½	4,851	5·73	277·88	230	Jr. 2	.. ..	Werribee Starbright Northwood
Myrtleview Sweet Maid ..	Vol. 20	18.12.32	17½	5,591	5·56	310·82	230	Jr. 2	.. ..	Summerhill Economist
Wade, W. J., Stratford, Jersey (0).										
Molly 3rd of Bellaire ..	17429	24.10.32	4	6,323	4·86	307·32	350	Mature	271, 330 ..	Eureka of Banyule
Waddell, H. M., Longwarry North (3).										
Springvale Fanny ..	28518	27.9.32	15½	6,743	5·36	361·32	310	Jr. 4	274 ..	Conqueror of Somerville
Springvale Joan	28520	28.9.32	16	7,320	5·59	408·85	310	Jr. 4	349 ..	Conqueror of Somerville
Junction Valley Hazel ..	Vol. 20	9.10.32	9½	5,828	5·23	304·85	250	Sr. 2	235 ..	Lily's Chief of Banyule
Walker, C. S., Swan Hill, Jersey (0).										
Warwick Princess Ivy ..	26271	2.12.32	9	7,499	4·62	346·70	350	Mature	320, 344, 399, 345	Chevrolet of Banyule
Walker, C. S., Swan Hill, Friesian (2).										
Burnbank Pietertje Violet	2390	18.10.32	44	14,400	3·59	517·34	350	Mature	341 ..	Burnbank Dellhurst Pietertje
Speewa Piebe Violet ..	Vol. 12	1.12.32	18	9,852	3·29	324·50	270	Jr. 3	375 ..	Burnbank Piebe Leonara
Wallace, A., Bendigo, Ayrshire (2).										
*Spring Dale Duchess ..	18938	10.10.32	4	5,970	4·96	296·40	350	Mature	297, 262, 266	Ben Kell Dainty Don
Glen Cooee Dot	15084	14.10.32	13	7,781	4·25	330·56	350	Mature	339, 313, 279	Chrissie of Oakbank
Spring Dale Doris ..	22081	29.10.32	13	7,297	4·73	344·84	270	Jr. 3	299 ..	Ben Kell Dainty Don
Spring Dale Lady ..	18939	9.11.32	7	6,885	4·10	282·32	350	Mature	255, 237, 248	Ben Kell Dainty Don
Spring Dale Dainty ..	16716	14.12.32	18	8,501	4·42	375·72	350	Mature	315, 276, 333	Prince of Meadow Vale
Spring Dale Flower ..	20754	14.12.32	15	6,788	4·44	301·43	330	Sr. 4	241, 255 ..	Ben Kell Dainty Don
Wallace, A., Bendigo, Jersey (3).										
Vine Hill Pansy	29605	29.9.32	9	6,662	5·06	337·36	330	Jr. 4	281, 275 ..	Preston Jewels Count
Preston Busy Bee ..	38501	1.11.32	8	5,676	5·04	286·23	270	Jr. 3	232 ..	Preston Pretty Boy
Fairy Dell Ruby ..	Vol. 20	6.12.32	16	5,756	4·82	277·66	230	Jr. 2	.. ..	Myall Dainty Lad
Warragul High School, Warragul, Red Poll (2).										
Gipps Vesta	2189A	24.10.32	10	5,619	4·14	232·48	290	Sr. 3	173, 138 ..	Gipps Romus
Gipps Nina	2880A	25.10.32	10½	5,999	4·25	254·89	270	Jr. 3	250 ..	Woodburn Laureate
Gipps Zora	2883A	31.10.32	9	5,687	4·16	236·79	230	Jr. 2	.. ..	Woodburn Laureate
Gipps Dorothea	2875A	31.10.32	10½	4,575	4·71	215·70	230	Jr. 2	.. ..	Woodburn Laureate
Gipps Christina	2874A	27.12.32	13	4,935	5·06	249·91	230	Jr. 2	.. ..	Woodburn Laureate
Watts, J. S., Stanhope, Jersey (5).										
Langi Fairy Girl	Vol. 20	15.10.32	15	6,075	6·65	403·84	230	Jr. 2	.. ..	Kantara Starbright's Monarch
Langi Jess	Vol. 20	17.10.32	11½	4,841	5·43	263·00	230	Jr. 2	.. ..	Kantara Starbright's Monarch
Langi Princess	33897	1.12.32	17	6,666	6·28	418·95	250	Sr. 2	315 ..	Kantara Starbright's Monarch
Langi Jean	Vol. 20	4.12.32	14½	5,324	6·68	355·54	230	Jr. 2	.. ..	Kantara Starbright's Monarch
Langi Fashion Girl ..	33895	6·12·32	13	4,629	7·11	329·15	270	Jr. 3	202, 283 ..	Kantara Starbright's Monarch
Watson, D. W., Glen Iris, Jersey (0).										
Ear Park Heather Belle ..	29305	5.10.32	7	5,309	5·74	304·71	310	Jr. 4	.. ..	Ear Park Snow's Audrey's Prince
Webb, H. L., Sunbury, Ayrshire (1).										
Holly Green Adeline ..	24018	6.10.32	9	5,261	4·72	248·38	230	Jr. 2	.. ..	Holly Green Major
Holly Green Rarity ..	18277	7.10.32	6	4,575	4·22	193·28	350	Mature	184, 257 ..	Holly Green Masher
Holly Green Golden Queen	24021	13.10.32	4	3,612	4·54	163·99	230	Jr. 2	.. ..	Holly Green Gold Coin
Holly Green Queenhood's Gem	21774	21.10.32	9	6,314	3·95	249·43	270	Jr. 3	288 ..	Holly Green Gold Coin
Quest of Holly Green ..	14280	24.10.32	9½	7,160	4·34	311·00	350	Mature	417, 343, 375, 377	Annie's Record of Holly Green
Holly Green Merlie ..	21771	27.10.32	4	3,402	4·78	162·64	270	Jr. 3	187 ..	Holly Green Masher
Holly Green Charm ..	21770	4.12.32	12½	4,598	4·30	197·66	270	Jr. 3	.. ..	Holly Green Masher
White, Russell, Cardigan, Ayrshire (3).										
Ayrvale Sylvia	Vol. 25	29.9.32	16	5,999	4·17	250·17	230	Jr. 2	.. ..	Percy of Sparrovale
The Valley Quality ..	14920	11.10.32	N.O.C.	5,657	4·03	228·08	350	Mature	.. ..	Liberty of Lady Bank
Cathcart Fuchsia ..	22591	22.10.32	6	6,782	5·26	356·68	270	Jr. 3	.. ..	Ben Kell Watford
Ayrvale Breta	Vol. 25	8.11.32	12	6,213	4·00	248·41	230	Jr. 2	.. ..	Percy of Sparrovale
Wilmot, J., Bullarook, Jersey (1).										
Uphaven Tulip	38540	1.10.32	7½	6,680	5·91	394·71	270	Jr. 3	333 ..	Grant's Twylish of Merrivale
Wood, C. J., Frankston, Jersey (1).										
Walbundry Gama ..	25916	9.10.32	15	6,050	6·16	372·90	350	Mature	226, 316, 359	Rolph of Rochdale

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Wood, J. V. M., Heidelberg, Jersey (8).										
Clarendon Eyre Belladonna 2nd	Vol. 20	14.10.32	17	8,483	5·72	485·15	230	Jr. 2	.. ..	Clarendon Eyre Happy Husband
Clarendon Eyre Rose Marie 3rd	Vol. 20	16.10.32	13	6,111	6·71	409·77	230	Jr. 2	.. ..	Eminent's Achievement of Clarendon Eyre
Champion's Victorious (imp.)	33954	27.10.32	15	5,681	6·26	355·79	290	Sr. 3	342 ..	Easter Lily's Champion
Clarendon Eyre Tangerine 3rd	38555	28.10.32	23½	7,854	5·15	404·36	250	Sr. 2	356 ..	Eminent's Achievement of Clarendon Eyre
Midnight Belle (imp.) ..	33959	1.11.32	21	8,463	5·21	440·88	270	Jr. 3	301 ..	La Fontaine Marvel
Clarendon Eyre Lilac Domino	29622	10.11.32	19	6,909	6·88	475·14	330	Sr. 4	346, 428, 478	Rose's Eminent of Clarendon Eyre
Werribee Fancy Madeira ..	17715	27.11.32	33	11,520	6·06	697·93	350	Mature	486, 512, 647, 626, 592	Masterpiece
Clarendon Eyre Iolanthe 2nd	C.R.	24.12.32	24	7,841	5·41	424·35	270	Jr. 3	345 ..	Eminent's Achievement of Clarendon Eyre
Woodmason, W., Oakleigh, Jersey (11).										
Lassie Fowler 13th of Melrose	16787	2.10.32	9½	5,925	5·79	343·16	350	Mature	218, 367, 324, 462, 448	Golden Fern's Viscount
Melrose Jessie 47th ..	25700	16.10.32	9	5,070	6·09	308·83	350	Mature	231, 355, 412, 389	Sunset of Melrose
Melrose Empire 14th ..	C.R.	17.10.32	11½	3,963	6·02	238·67	230	Jr. 2	.. ..	Melrose Clementine 2nd Masterpiece
Melrose Graceful Duchess 39th	23531	17.10.32	16	7,280	6·03	439·17	350	Mature	333, 358, 371	Jessie 13th's Count
Melrose Jessie 56th ...	C.R.	19.10.32	12	4,866	5·87	285·81	230	Jr. 2	.. ..	Melrose Clementine 2nd Masterpiece
Melrose Jenny Lind 27th ..	C.R.	20.10.32	18½	5,807	5·68	330·08	230	Jr. 2	.. ..	Melrose Clementine 2nd Masterpiece
Melrose Jessie 52nd ...	29651	28.10.32	13½	4,931	6·78	334·16	330	Sr. 4	210, 384 ..	Masterpiece
Melrose Zoe 11th ..	C.R.	29.10.32	16	4,952	6·01	297·45	230	Jr. 2	.. ..	Melrose Clementine's 2nd Masterpiece
Melrose Graceful Duchess 49th	C.R.	13.11.32	17½	5,825	5·59	325·75	230	Jr. 2	.. ..	Melrose Clementine's 2nd Masterpiece
Melrose Promise 2nd ..	C.R.	4.12.32	19½	6,318	6·55	413·61	270	Jr. 3	377 ..	Masterpiece
Melrose Rarity 15th ..	C.R.	8.12.32	16	4,761	5·39	256·57	230	Jr. 2	.. ..	Melrose Clementine's 2nd Masterpiece
Melrose Handsome Girl 17th	C.R.	10.12.32	15	4,532	5·93	268·57	230	Jr. 2	.. ..	Melrose Clementine's 2nd Masterpiece
Melrose Graceful Duchess 44th	25696	16.12.32	18½	5,876	6·07	356·44	350	Mature	235, 316, 368, 452	Sunset of Melrose
Xavier College, Kew, Jersey (1).										
Jubilee Lucerne	38126	12.10.32	8	5,591	5·48	306·64	270	Jr. 3	.. ..	Jubilee Whatlight
Young, G. T., Sedgwick, Jersey (4).										
Preston Dream Maid ..	C.R.	28.9.32	..	6,093	4·58	278·94	230	Jr. 2	.. ..	Preston Mite Bee's Chief
*Preston Star Queen ..	C.R.	25.10.32	..	5,145	4·93	253·43	230	Jr. 2	.. ..	Kyora Mayflower's Fancy
*Preston Fancy Verbena ..	C.R.	26.10.32	..	6,600	4·96	327·09	230	Jr. 2	.. ..	Kyora Mayflower's Fancy
†Preston Fancy Free ..	C.R.	2.11.32	..	5,550	5·03	278·97	270	Jr. 3	.. ..	Kyora Mayflower's Fancy

* 240 days in test. † 210 days in test.

ERRATUM.—Department of Agriculture, Werribee, Red Poll, Victoria Guilder's record published in annual report as 365·58 should be 395·58.

Worms in Sheep

(*Continued from page* 607)

It is not advisable to drench ewes and lambs at the same time. Ewes should be treated first, and the lambs a week later.

The animals must not be allowed any food, if possible, for 36 hours before dosing, and no water should be given for two hours after administration of the medicine. Treatment should be commenced before sheep become too weak to withstand a 36-hours' period of fasting. Those unable to stand this probably would die in any case.

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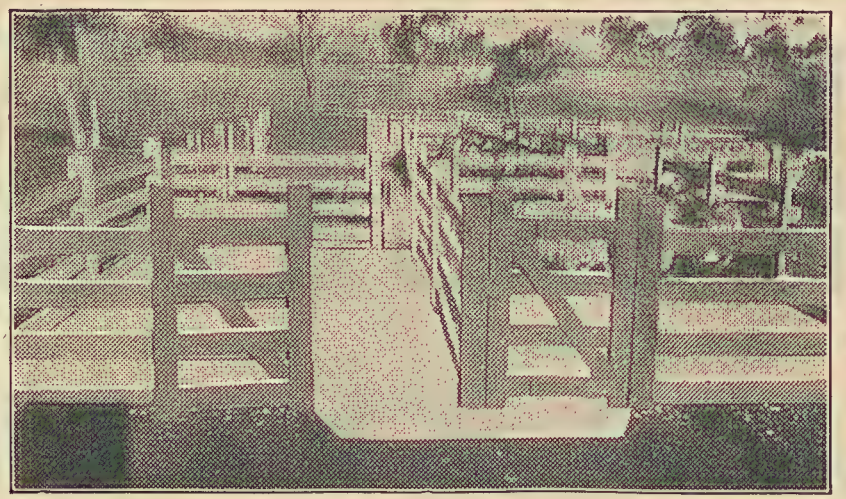

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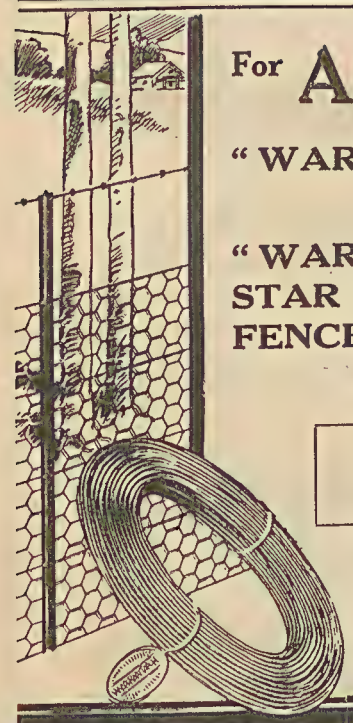

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Department of Agriculture

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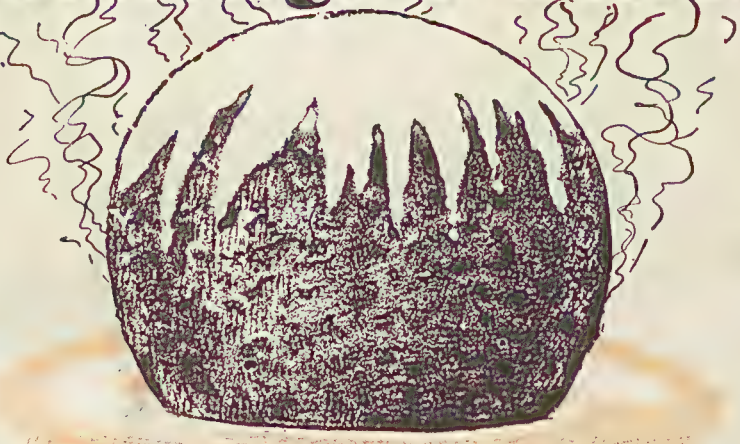

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1 teaspoon salt.
½ teaspoon cinnamon.
Grated rind and juice of 1 lemon.
1 grated carrot.

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